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JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

MARCH  
1949

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EDITOR:

T. D. HOGAN, VK3HX,  
Telephone: UM 1732.

MANAGING EDITOR:

J. G. MARSLAND, VK3NY.

TECHNICAL EDITOR:

J. C. DUNCAN, VK3VZ.

ASSISTANT TECHNICAL EDITOR:

A. K. HEAD, VK3AKZ

COMPILATION:

R. W. HIGGINBOTHAM, VK3RN.

CIRCULATION:

J. F. IRVINE, VK3TU.

ADVERTISING REPRESENTATIVE:

W. J. LEWIS,  
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— IN THIS ISSUE —

Notes on Double Conversion Receiver Design	3
What No Beacons?	4
Ionospheric Predictions for the Amateur Bands	5
Royal Australian Air Force Reserve	7
Eighty Metres and How!	9
Frequency Measuring Contest	10
Suggestions for use of Germanium Crystals	11
Series Screen Modulation of the Type 3 Mark II	12
This F.M. and Television Business	14
Federal, QSL and Divisional Notes	15
Fifty and Up	23
Correspondence	24

## EDITORIAL



### TECHNICAL PROGRESS.

#### N.B.F.M.

Federal Executive has, on your behalf, sought from Chief Inspector (Wireless) permission for Australian Amateurs to use Narrow Band Frequency Modulation on 3.5 and 27 Megacycle Bands. We feel that the time has arrived for amateur exploitation of the new field opened up by this technique, particularly on 3.5 M/c band, where B.C.I. debars many amateurs from making full use thereof. It is hoped that when this privilege is granted, the 3.5 M/c band will be completely reactivated and re-explored, for herein lies our most useful medium for maintaining close contact between Country and City Members.

N.B.F.M. standards recommended by the Federal Executive were outlined in the editorial for October, 1947.

#### F.I.A.T.S.

The Federal Ionospheric and Tropospheric Sub - Committee has, with the aid of Dr. A. L. Green and his staff at A.I.P.S.—to whom we are extremely grateful—succeeded in providing for the magazine each month, a series of very simple charts whereby the Amateur Operator may spend every minute on the air in sure contact with the desired Zone, instead of sitting wondering why the band is dead. The Sub-committee is now investigating the possibility of making these charts useful for our New Zealand friends. The next step

will be, with the co-operation of Divisional Councils, to establish Liaison Officers in each State who will correlate for official broadcasts, Short Term Corrections and Interstate Propagation Forecasts.

#### 50 M/c BAND.

The advances made in Equipment, Aerial Systems and increasing knowledge of propagation characteristics has resulted in consistent contacts over distances which were once regarded as a rare accomplishment. Undoubtedly when F.I.A.T.S. can get into action on Tropospheric Forecasts present day records will be eclipsed with ease. Naturally we will always be indebted to sporadic E. and T.I. for abnormal ranges; but our Tropospheric Forecasts will enable us to take full advantage of the vagaries of nature.

#### 144 M/c BAND.

From a rickety start with the inevitable "Super-Regen" and "Wobulated Oscillator," we have in quick time reached the dizzy heights of "Double and Triple Conversion Super-Hets," and Multi-Stage Crystal Controlled Transmitters," with it we have developed a very blasé attitude and now regard this band more or less as the "Local Telephone Service"—In other words, it's time for the pioneers to move further afield to pastures new—So, why not follow the lead of those hardy members who are already blazing the trail on 576 M/cs.

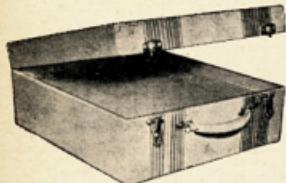
—G.G.

# Homecrafts

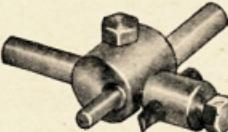
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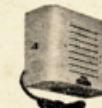
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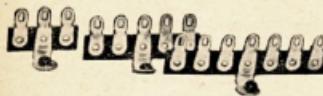
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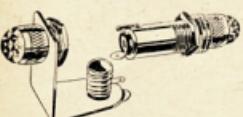
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# Notes On Double Conversion Receiver Design

BY D. R. AYRE,\* VK3KP

C. C. Waring's article on a double conversion receiver ("A.R.", June, 1948) should be read by all interested in this type of set. It is a most comprehensive description of a particular receiver, providing ample information on many phases of the design and construction of the type, and is therefore a considerable contribution to the literature relating to double conversion receivers. Little enough has been written about them in the past. The A.R.R.L. Handbook for 1944, for instance, contains a total of 10½ lines on the subject!

Although the writer proposes also to refer to a specific receiver, it is not so much for the purpose of providing a complete description together with constructional details, as to bring out several points of considerable interest and importance in the design of these receivers.

The receiver in question, which has proved most satisfactory at the writer's station, is shown in block diagram form in Fig. 1. It will be seen that the tube line-up is as follows:-

1st r.f.—6AK5  
2nd r.f.—9003  
1st mixer—9001  
1st osc.—9002  
High i.f.—6SK7  
2nd mixer—8L7  
2nd osc.—6J5  
1st low i.f.—6SK7  
2nd low i.f.—6SK7  
Det., a.v.c., 1st audio—8R7  
B.f.o.—6J5  
Shunt noise limiter—6H6  
Output—6K6.

The high i.f. is 3830.7 Kc. (for reasons mentioned below), while the low i.f. is 455.0 Kc.

## CHOICE OF INTERMEDIATE FREQUENCIES

It is well known that the primary reason for accepting the complexity of a double conversion receiver is to achieve satisfactory image ratios for the higher frequencies, say from 14 Mc. up, while retaining the desirable selectivity and gain of the conventional i.f. chan-

nel working on 455 Kc., 175 Kc., or even lower. 1600 Kc. is often adopted for the high i.f. This gives a fairly satisfactory image ratio on 28 Mc., as Waring points out, but leaves something to be desired at higher frequencies. True, 1600 Kc. i.f. transformers are available. The writer feels, however, that the slight additional expense involved in procuring special higher frequency transformers is a drop in the bucket when compared with the cost of the complete receiver. Somewhere in the range 3 to 6 Mc. would seem satisfactory, although v.h.f. requirements may warrant going up to 10 Mc. For the low i.f. the writer prefers 455 Kc. in conjunction with a crystal filter. The exact high i.f. chosen—3830.7 Kc.—was finally arrived at for reasons dealt with below.

## SPURIOUS SIGNALS

These are mentioned early in the article because they play a part in the selection of the frequency at which the second (fixed frequency) oscillator is to work, and hence, in the choice of the two intermediate frequencies—particularly the higher.

There are three common forms of spurious signals which can creep into the double conversion receiver (there are others, but they are either rare, or of the type found in a normal single conversion set; in either case, they are not considered here). The three forms are:-

- (a) Harmonics of the second (fixed frequency) oscillator.
- (b) Silent "carriers" caused by interaction between the first and second oscillators.
- (c) Images due to oscillator harmonics.

Type (a) are readily understood. Suppose the second oscillator to be on 4000 Kc. Its harmonics will appear at 8, 12, 16, 20, 24, 28, 32 Mc., etc. They are the hardest of all the spurious signals to eliminate, because they are accepted by the input circuit of the first r.f. stage when it is tuned across them, and this stage is the most sensitive in the set. It is easy enough to suggest adequate decoupling of the second oscillator,

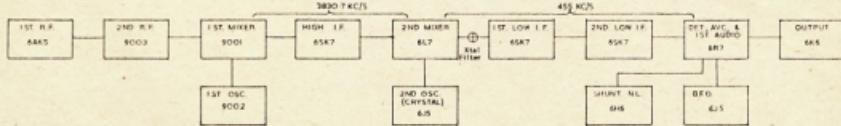
together with liberal shielding. It is, alas, very hard to get enough of either to suppress this type of spurious signal completely.

Unlike Waring, the writer sees little point in general coverage for a receiver of this type, and is interested only in Amateur band reception. One solution, therefore, is to pick a frequency for the second oscillator having harmonics which fall outside any band which it is intended to receive. The other—adopted by the writer—is to select a frequency whose harmonic coincides with the edge of a band, and acts as a marker. The second oscillator used is a low drift crystal type, and owing to the availability of a readily adjusted crystal, 4285.7 Kc. was chosen. The seventh harmonic of this frequency is 29999.9 Kc., which marks the h.f. end of the ten metre band. Other, and better, alternatives will suggest themselves—3500 Kc. for instance, which will mark the edges of 80, 40, 20, and 10.

Spurious signals of type (b) will surely appear in any but the best designed sets when they are first switched on and given a preliminary line up. They are caused by the fundamentals or harmonics of the two oscillators beating together to produce silent "carriers" which are picked up by the input circuit of the high i.f. stage or (this is less usual) by the input circuit of the first low i.f. stage. They are alarming when first noticed, as they appear closely spaced all over the dial. The reason for their multiplicity lies in the fact that even high order harmonics can be responsible. The writer, at one stage in the development of the receiver referred to, tracked down a few that were coming from harmonics of the order of 40th to 50th.

Fortunately, the input to the i.f. channels—especially the low i.f.—has to be higher than that at the first r.f. stage to produce the same effect. This is all to the good. The solution must be found; it will vary with each receiver and with different set-ups of a given receiver, but basically will comprise complete, elaborate shielding of one or both oscillators, and careful decoupling

(Continued on Page 19)



# What, No Beacons?

BY M. E. COLLETT,\* VK2RU

We are fortunate in Australia to have the use of the Radio Ranges on 33.3 and 33.8 Mc., commonly referred to as beacons; they have proved invaluable, now that we have got the six metre enthusiasts using them to determine whether or not the band is open, and in what direction. Observations would indicate that their normal range is in the vicinity of 50 miles, at ground level, increasing upwards to 200 miles with suitable temperature inversion conditions. At this location, 40 miles north of Sydney, no ranges apart from SY are normally heard. All other ranges are heard here at various times apparently via E layer reflection, except in the case of PH which is also heard via F2 layer reflection as well as E layer (double hop). This was instanced on the 17/1/49 when VK6 and VK5 stations were heard and worked on and around the same time that PH and AD were audible on their respective frequencies. Normally DN and PH are heard during the daylight hours via F2 layer, m.u.f. permitting round the equinoxes.

One point of interest which appears to occur at most openings, is the intensity of the signals from the ranges rises to very high levels, prior to the appearance of signals on 50 Mc., decreasing considerably during the opening and rising again after the band closes, which would appear to indicate that the m.u.f. passes down through the frequency spectrum with the increase in ionisation.

During observation of sporadic E via Radio Ranges, contacts, etc., it appears that the "clouds" travel generally in a northerly direction. This can be observed very effectively early in the DX season when they cover a comparatively small area. For instance, BN has been heard for possibly five minutes, it fades out and shortly afterwards TV appears, as it fades out CS comes in and goes out, later on DN is heard. This performance was repeated on a number of occasions in the evenings in October, 1947. Comparing times and maps gave us approximately 300 m.p.h. This compared favorably with observations on AD to DN fade-out to fade-out during the same month.

1948-49 provided the first double hop contacts via E layer in VK. Multiple hop contacts appear to be indicated as evidenced by reported reception of ZS1ET by VK3 and VK6 stations, and VK6s and ZLs calling each other.

The next step in 50 Mc. DX in VK is apparently to work South Africa and South America. Days such as the 5/12/48, 18/12/48, and many others subsequently, when all States and ZL made contacts on and around the same time, appear to indicate that the "sporadic E"—for want of a better term—covers very large areas of the southern hemisphere. Multiple hops under these conditions appear very hopeful though, owing to the shortness of the skip, not particularly reliable.

\* 85 Mann Street, Gosford, N.S.W.

With the end of the DX season approaching, it may be of interest to hold a post mortem and compare them with the previous year, though lack of activity in 1947-48 tends to mar the comparison. In 1947 and 1948 the Radio Ranges became audible with increasing regularity after the beginning of September in each year. Although during the winter months the ranges did come through and the band also opened mainly following the twenty-seven day cycle.

In 1947 the band opened with a bang on the 9/11/47 and remained open until the 15/11/47. It opened again on the 6/12/47 and closed on 3/1/48. That practically finished the season so far as VK2 was concerned, except for a few isolated contacts during the latter part of January.

In 1948, except for an odd contact, the band did not open properly until the 19/11/48, when it got away to a good start after which it remained open to various States until the big day when VK6 came on the map—5/12/48—so far as VK2 was concerned. After a slight lull it reopened again on the 11/12/48 and it remained so except for an odd day or so up to the time of writing—29/1/49—to all States and New Zealand. During this season ZLs have been worked from VK2 on 31 days. Double-hop contacts and reception reports indicate that the band has been open to VK6 on 12 occasions.

Daily observation has also been undertaken here of the m.u.f. but to date contacts per medium of F2 appear to be somewhat remote. However in March and again in October the m.u.f. did reach 50 Mc. and fading carriers were heard from a northerly direction. It would appear that so far as VK2 is concerned the periods March-April and September-October around 1100 to 1400 hours this coming year would bear watching.

In conclusion the writer would like to thank fellow six metre Hams for their solid co-operation. It was hoped at one stage—records having been kept for two years—to endeavour to line up sporadic E with other natural phenomena as weather, storms, etc., sunspots, conditions on lower frequencies, etc., etc. However conditions this year shattered all previous theories. Contacts were made under all weather conditions from as early as 0800 hours (VK3OD, on the 13/12/48) to 2020 hours (VK4BT, on 27/10/48) and Radio Ranges have been recorded at varying strengths at all hours of the day and night. Sunspot numbers varied from 85 on the 5/12/48—a very good day for DX—to 221 on the 19/12/48, which, apart from very sporadic ZL and Interstate contacts, provided nothing unusual.

As regards the other bands nothing was observed apart from the usual masking effect of sporadic E. Maps and charts on sporadic E observations by the N.P.L. Eng. covering from December 1940 to January 1942 were carefully

studied. These indicated intense activity during summer months, slight peak in mid-winter and fairly regular re-occurrences during other months following 27 day cycle. These charts covered the northern hemisphere and other than the fact that conditions appear to follow very closely the same pattern so far as VK is concerned nothing further was gleaned. However after analysing daily records of Ranges heard during the last two years some interesting features emerge, particularly so when they are correlated with various openings in VK and elsewhere. It would provide a basis for a further article if sufficient interest warrants it.

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# IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

MARCH, 1949

The accompanying charts have been prepared by the Ionospheric Prediction Service of the Commonwealth Observatory. The first set of the series was published in the November, 1948, issue of this magazine, together with an article explaining the nature of the forecasts and how to use them. Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

The Canberra charts refer to the following world zones:—

Zone	Region	Terminal
1	Western Europe	London
2	Mediterranean	Cairo
3	N.-West America	San Francisco
3a	N.-East America	New York
4	Central America	Barbados
5	South Africa	Johannesburg
6	Far East	Manila

The forecasts have actually been prepared for point-to-point circuits between Canberra and the overseas terminals mentioned in the above table. It is, however, to be expected that the charts will provide an approximate indication of ionospheric conditions for all Amateur contacts from South Eastern Australia to the various world zones.

The Perth charts are similar to those based on Canberra, except that the Far East terminal is Shanghai in chart P-Z6. No forecasts are given from Perth to Zones Z2 and Z4 for the current month. Chart P-Z2 would be essentially similar to P-Z1, while chart P-Z4 would be unreliable due to auroral activity in high northern latitudes.

## USE OF CHARTS

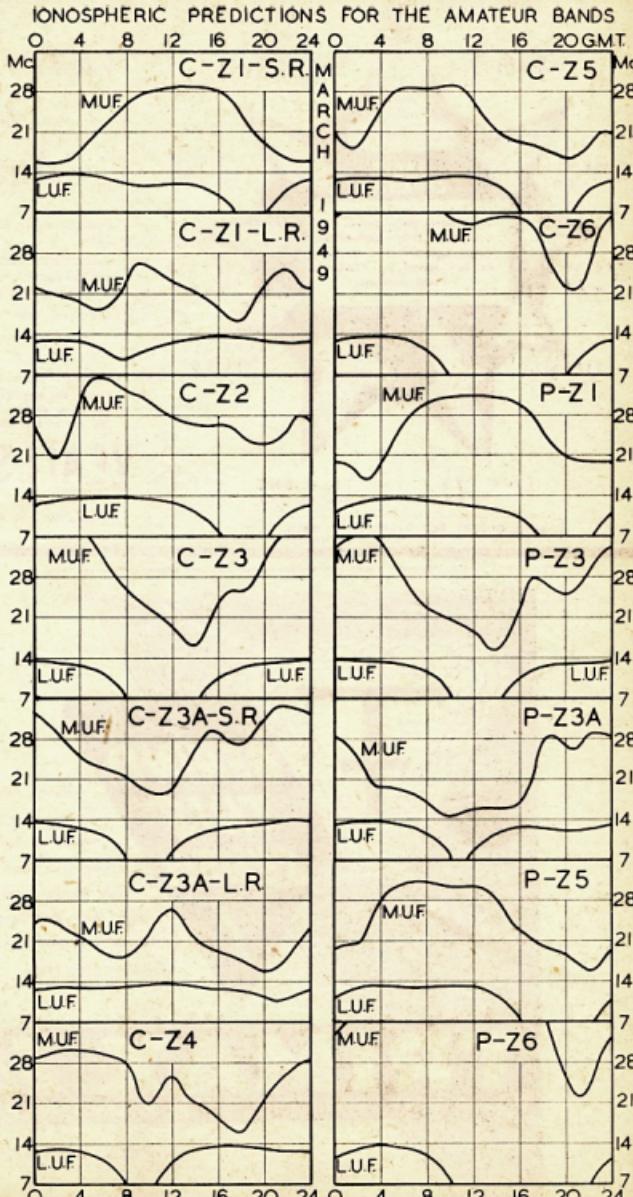
All that is necessary in using the charts is to select a time (G.M.T.) during which a specified Amateur band frequency is below the maximum usable frequency (m.u.f.) of the F region of the ionosphere but above the lowest useful frequency (l.u.f.) for the desired contact. In two cases, Zones 1 and 3a, it is necessary to consult both the short-route (s.r.) chart and the following long-route (l.r.) chart.

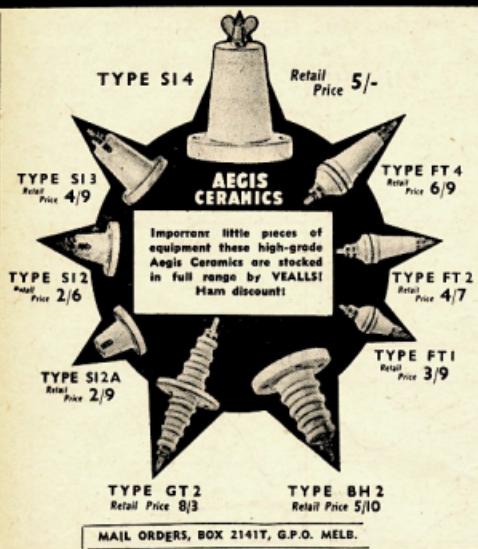
## QUIZ

The Prediction Service welcomes comments on the accuracy of its predictions. In particular, answers to the following questions on the Canberra-San Francisco circuit would be most helpful:—

- Was there a consistent break in the 28 Mc. band from 0700 to 1900 hours G.M.T.?
- Was the 14 Mc. band open, but noisy around midnight G.M.T.?
- Were conditions good on the 14 Mc. band from 0800 to 1600 hours or was there a break in the circuit soon after mid-day G.M.T.?

Answers to the Quiz should be sent to the W.I.A. and should, if possible, refer to consistent results obtained on the majority of days in the month.





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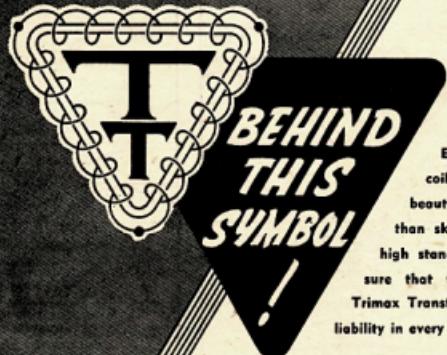
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ENQUIRE FROM YOUR NEAREST DEALER

# Royal Australian Air Force Reserve

The Minister for Air (Mr. Drakeford) has said "The value of reservists can be judged from the fact that the R.A.A.F. Wireless Reserve in 1939 permitted the R.A.A.F. to man vitally important circuits without delay and to carry out a development plan which would have been considerably delayed without the able and loyal aid of the members of the Reserve."

Wing Commander J. Reddrop, Director of Telecommunications and Radar, gave a talk at the 1948 Annual Convention of the Wireless Institute of Australia in Melbourne and there has been a press release telling you of the broad plan to include an active radio component in the R.A.A.F. Reserve.

Wing Commander J. Reddrop tried to imagine that he is a possible member of the Radio Section of the Reserve and has asked himself some questions, and as it is his job to organise the Reserve, they were able to supply the answers. Here they are:

## What is the R.A.A.F. Reserve?

The conditions of service in the Royal Australian Air Force Reserve are fully covered in the July 1948 issue of "Amateur Radio," page 14.

The Permanent Air Force Reserve will include a Telecommunications and Radar Section. Reservists in the Telecommunications and Radar Section will be trained to such a standard so that when called up for service, they shall rank and be able to work with members of the Telecommunications and Radar Section of the Permanent Force without further training.

## How will Telecommunications & Radar

### Section of the Reserve be Organised?

Squadron Leader F. C. Bibby has been appointed as Officer in Charge of the Telecommunications and Radar Section of the R.A.A.F. Reserve. Nearly every radio man who has been in the Active Force knows Squadron Leader Fred Bibby. He will be remembered as a most energetic, go-ahead officer and an active and enthusiastic Amateur. He trained a number of presently serving ex-Signals officers and airmen. He has been out in the field and served with the U.S. Forces under General Akin. He was well thought of by the Americans and was awarded the American Bronze Star Medal for his work with them. He is now at Air Force Headquarters and is responsible for technical development and the frequency and ionospheric organisation.

The Telecommunications and Radar Section of the Reserve will be organised on an Area basis under the control of Air Force Headquarters. In the initial stages, the areas will be as follows:-

Southern—Victoria, South Australia, and Tasmania.  
Eastern—New South Wales and Brisbane area.

North Eastern—Northern Queensland.  
Western—Western Australia.

North Western—Northern Territory.  
**Southern** will be under the control of the Chief Signals Officer, Southern Area Hqrs. (Address: Albert Park Barracks, Melbourne.)

**Eastern** will be under the control of the Chief Signals Officer, Eastern Area Hqrs. (Address: Albert Park Barracks, Melbourne.)

**North Eastern Area** will be under the control of the Chief Signals Officer, North Eastern Area Hqrs. (Address: Townsville, Qld.)

**Western** will be under the control of the Chief Signals Officer, Western Area Hqrs. (Address: Pearce, W.A.)

**North Western Area** will be under the control of the Chief Signals Officer, Western Area Hqrs. (Address: Darwin, N.T.)

In each area, the Chief Signals Officer will organise the activities of that area in conjunction with a Chief Reservist Officer.

## What Training Will I Get?

In the initial stages, the training of Reservists will take the form of revision of what you had learnt and were engaged upon during service in the 1939-45 War. Following this initial stage, Reservists will be brought up to date with current practices in use in the Active Force.

## How Will I Be Trained?

Training will be carried out along the following lines:—

### (i) Home Training.

(a) For approximately the first 6-9 months, technical data will be supplied to Reservists so that in their spare time they can carry out revision and bring themselves up to the standard they attained whilst members of the Active Force.

(b) Reservists will be sent questionnaires which will require them to do some delving into their text books and notes to find the answers.

### (ii) Lectures.

(a) Periodical lectures will be given at central points to all Reservists. These lectures will cover the whole field of the Active Force Telecommunication and Radar equipments, and where possible future developments and equipment on the design board. Reservists will know what is going on at home and abroad.

### (iii) Practical Work.

(a) It may be possible to organise competitions, particularly in the field of efficiency in v.h.f. link transmission and reception. This will depend on yourselves and every possible assistance will be given.

(b) Organised group visits to R.A.A.F. units will be arranged to enable Reservists to see communica-

tion and radar equipments, and layouts in aircraft, single side band multi-channel equipment and high powered transmitters in transmitting stations, the operation of tape relay message handling, etc.

(c) Personal visits to R.A.A.F. units will be arranged for Reservists on leave at a Capital city or near a R.A.A.F. unit to enable them to work side by side with officers and airmen of the Active Force.

(d) Special arrangements will be made for Reservists visiting their Area Headquarters capital cities to personally present their ideas for improvements and to discuss their problems with Chief Signals Officers, and when visiting Melbourne with officers at Air Force Headquarters.

(e) Arrangements will be made for Reservists to visit factories in or near their district, or when they are on leave and to visit the Royal Australian Air Force Research and Development Unit and aircraft manufacturers.

(f) Working displays of equipment will probably be arranged in the capital cities or nearby Air Force units so that Reservists can spend as much of their spare time as possible to become experienced in the operation and maintenance of service equipment.

## Will I Learn Anything New?

Every effort will be made to advance the technical knowledge of Reservists. The standard required of Reservists will be such that they, when called up for Service, can be absorbed directly into the Telecommunications and Radar Section of the Permanent Air Force.

Reservists will be taught single-side band multi-channel and frequency shift transmissions, and all other aspects of radio teletype transmission, v.h.f. and pulse techniques including relaying radar scope pictures, multi-channel links, aircraft instrument landing systems, such as SCS-51 and G.C.A.

Lectures and demonstrations and technical articles will be given on all the above subjects and others as they come to hand.

The merging of signals and radar commenced after the cessation of hostilities. It will be recalled that there were separate signals and radar organisations during the last War. It was realised that there was a very close relation between the functions of the two organisations and it was decided that they should merge and the resultant product "Radio" would cover all aspects of signals and radar.

All ex-Signals personnel will be trained in radar and all radar personnel will be trained in signals.

## Is There Any Social Side?

All Reserve members will be afforded the facilities of the appropriate

(Continued on Page 10)

# *Important Announcement!*

Due to Arrive — April

## **"A.R.R.L. HANDBOOK"**

**1949 EDITION**

PUBLISHED BY AMERICAN RADIO RELAY LEAGUE

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# Eighty Metres And How!

BY J. E. DE CURE,\* VK5KO

A study of the predictions, contained in the various graphs contained in the Radio Propagation Bulletin issued monthly by the Ionospheric Prediction Service of the Commonwealth Observatory, plus the graphs published in "Amateur Radio" in November, 1948, led me to believe that communication with European Amateur Stations should be possible on the 3.5 Mc. (80 metre) band, somewhere between 1800 and 2000 G.M.T.

As I had been subjected to considerable pressure from G6CJ during the past two years to initiate a series of tests on 80, a watch was kept on that band during late October and early November. At first results were not encouraging, but between 1930 and 2000 GMT on 9th November, 1948, the following stations were logged at reasonable strengths: G5RV, SM5TF, G3BRN, and GW3CDC.

Having established that the path was actually a possibility, I contacted G6CJ and arranged week-end schedules between 1900 and 2000 hours G.M.T. each Friday night, commencing on 3rd December, 1948. The first series returned a null return each way but on changing up to 7070 Kc. G6CJ was immediately contacted and further schedules were arranged.

Unfortunately G6CJ was unable to keep this schedule on 10th December, and thus missed the work done on that day. At 1850 G.M.T., European stations began to appear, and after some futile CQs, VK5KO was called by G13ECQ (Antrim, North Ireland) and HB9K in Switzerland on 3540 Kc. at 1920 G.M.T. Reports were exchanged with both these stations, but I was unable to raise any of the other numerous Europeans logged up to 2000 G.M.T. when the band faded out.

A daily schedule was then commenced, G2KO being worked on 11th December but in spite of countless CQs, no other station was raised until 1930 G.M.T. on 16th December, 1948, when G3ACC called and gave an RST 579 report. Margaret, very much alive, proceeded to wake Europe up to the fact that there was a VK on the band, and from then on it has been a matter of one QSO following another.

To condense, 187 Europeans have been contacted up to 20th January, 1949, reports ranging from RST 449 to 589—strengths under 4 are just not good enough to battle with the QRM situation. In addition to the above, ZS1M, FABBG, and ZC8PM have been worked between 1900 and 2000 G.M.T. Several Ws including W7MVH and JA2KG, and numerous ZLs, have been worked around 1200 hours G.M.T. Reports from W2QHH in New York City indicate that levels of S7 to 8 are being received at that centre at 1200 G.M.T.

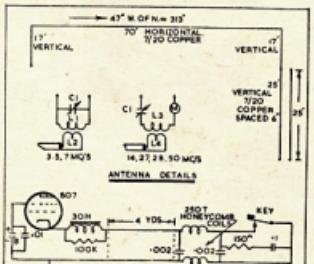
The foregoing has been written in an endeavour to sell 80 metres to the fraternity. It must be admitted that there

Here is the story of the recent regeneration of the 3.5 Mc. band, together with some random ideas on an antenna, which has been moderately successful on the various bands, as well as 3.5 Mc., the band in which the writer is most interested.

is not much wrong with a band that can yield over 200 DX contacts with five continents in a matter of six weeks. There has been a fair amount of discussion here regarding how long these conditions will be maintained. In my opinion, taking a line from previous experience of an almost identical nature on 7 Mc. band in 1930-31, I incline to the view that these contacts should be possible on most days throughout the year, around the local sunrise period—i.e. from about 15 minutes before, until approximately 30 minutes after sunrise—always provided the station you desire to contact is not in a sunlight area. This is of course an extremely broad general statement and would be subject to considerable adjustment, but activity is the only way to prove the point. In any case this band does provide some variety, and we should keep in mind the old adio "that what you don't use, you will eventually lose." The QRN bogey also appears to be a myth as it drops to very low levels when the DX is coming through.

## DETAILS OF ANTENNA

So much for what you may expect to hear on 80 metres. Many will say, well, the difficulties of arranging an aerial system that is capable of performing with sufficient efficiency to enable this work are insurmountable in the average suburban location. A brief description of the antenna in use at VK5KO will, for that reason, be of



L1—3.5 and 7 Mc.—14 turns,  $3\frac{1}{2}$ " diam.  
L2—3.5 and 7 Mc.—3      "      "  
L3—14 Mc.—6      "      "  
L4—14 Mc.—2      "      "  
L5—27, 28, 50 Mc.—4      "      "  
L6—27, 28, 50 Mc.—2      "      "  
All coils are of 14 s.w.g. copper, and wound on air.

interest and perhaps encouragement.

This antenna is used on all bands, i.e. 50, 28, 14, 7, and 3.5 Mc. On 50 Mc. all Australian States and New Zealand have been worked with S9 reports, on 28 Mc. results appear to indicate that any station heard may be worked. The owners of various types of beam antenna never appear to hear anything not audible using this aerial, but on the contrary, appear to miss quite a lot. On 14 Mc. 135 different countries were worked between March and November, 1948. On 7 Mc. all continents except South America have been worked at least 5 times each, while on 3.5 Mc. twenty-three countries on five continents have been worked, during the past six weeks.

The system is used as an end fed hertz on 3.5 and 7 Mc., and as a zeppelin fed hertz on the higher bands. On 3.5 and 7 Mc. the coupling circuit is a parallel resonant circuit link coupled to the final amplifier by six feet of co-axial cable with the outer grounded at both ends. On the higher frequencies the feeders are series tuned, but results are much superior when the capacity is placed in the live feeder and the antenna current meter in the dead feeder side. The poles supporting the antenna are each 35 feet high but the one at the south east end is erected on ground approximately five feet higher than that at the north-west (fed end). This results in a tilt favoring the north-west paths, but results on all bands give no evidence of this.

At first glance you will wonder how it is possible to resonate 25 feet of twin (zepp) feeder with a series condenser to feed a flat top of 104 feet on the 14 Mc. band. It makes sense on 28 Mc., i.e. I wave feeders, but  $\frac{1}{2}$  feeders on 14 Mc. appear all wrong. I will not go into the theoretical reasons for the fact that the system is sharply resonant in this condition, but suggest that you try it. On 7 Mc. and 3.5 Mc. it would appear to be correct to leave the 25 feet dead feeder disconnected, results here indicate however, that it is better to leave it connected to the low voltage end of your parallel resonant coupling circuit.

Although it is realised that this system has many shortcomings, it is offered as the only system I have been able to evolve that is capable of really good results all round the compass on any of the six Amateur Bands—including 11 metres—normally used by Amateurs.

## SYSTEM OF KEYING

It has been suggested that key clicks and/or b.c.i. may be a bug-bear on 80 metres; experience has shown that this is not so. The transmitter here is keyed in the centre tap of an 807 buffer stage using the filter shown in the accompanying diagram. With this arrangement it is possible here to plug a highly sensitive receiver into the transmitter power mains outlet and adjust it to maximum sensitivity tuned away from any station, i.e. no a.v.c. voltages, and it is not possible to determine whether or not the transmitter is being keyed.

# Frequency Measuring Contest

## RULES

1. The Frequency Measuring Contest will be held on the 25th March and 1st April, 1949 (not 18th and 25th March as previously announced), commencing at 8.30 p.m., and will consist of five transmissions in the 7 Mc. band on each of these two nights, making 10 test frequencies in all.

2. The Contest is open to all States of the W.I.A. and Members, Associates, and Student Members are eligible to compete.

3. Prizes will be Orders for purchase of Radio Gear. 1st Prize, £3; 2nd Prize, £2; a Special Prize of £1 for the contestant who, in the opinion of the Judges, has made the best use of home built equipment.

4. Entrants will submit a minimum of four frequencies in the Contest, out of the ten transmitted, as competitors may find difficulty in obtaining accurate measurements on some of the transmissions, due to interference.

5. The approximate frequencies plus or minus 10 Kc...for purposes of location will be:

1. 7010 Kc.	6. 7030 Kc.
2. 7050 "	7. 7070 "
3. 7090 "	8. 7110 "
4. 7130 "	9. 7150 "
5. 7170 "	10. 7190 "

## DOUBLE CONVERSION RECEIVER DESIGN

(Continued from Page 3)

of one or both. The writer found that the best form of decoupling was a 0.02  $\mu$ F. mica condenser from the actual last turn of the oscillator tank to the nearest chassis point.

At this stage it might be as well to urge all intending constructors of double superhet's to isolate all stages by separate shield cans having double, rather than common, walls. It will pay them in the long run.

Troubles of type (c) are more particular in their nature. They are best explained by quoting in detail a case which occurred during the development of the writer's present receiver. Here are the clues: low if. 455 Kc., second osc. 4285.7 Kc., high if. the sum of these two, viz., 4740.7 Kc.; band being tuned, 20 metres; first oscillator on the low side of the signals; for stability; symptoms of trouble—all the stronger stations on 20 appeared twice on the bandspread dial, but the separation between their dual positions was greater toward each end of the band. For example, Station A, on 14000 Kc. might be heard on 14100 Kc. also; Station B on 14310 Kc. would be heard also on 14400 Kc.; but Station C, on 14200 Kc. would have its other spot much closer, at say, 14205 Kc.

To save the reader hours of head-scratching which the writer put in before realising the cause of the trouble—yes, the cause was simple—the solution is offered forthwith: The tuning range of the first oscillator was 14000

6. **Judging.**—The error in cycles per second of each of the frequencies submitted to be totalled, and the average error in cycles per second determined. The lowest average error to be the winner.

7. The Judges will take the frequencies submitted by a Frequency Measuring Service, independent of the W.I.A., as being correct for this competition.

8. All measurements must be made at the Member's stated address, and the use of private or public institutions, or their equipment is prohibited.

9. Entries must be sent to the W.I.A. Victorian Division, 191 Queen Street, Melbourne, not later than 8th April, 1949, and marked "Frequency Measuring Contest," in the bottom left hand corner of the envelope.

10. The decision of the Judges will be final. Judges are VK3IK (Communications Manager), VK3VZ (Technical Editor), VK3JI (in charge of Frequency Measurements).

## PROCEDURE

VK3WI will commence operation on phone at 2020 hours on 7196 Kc. with information on rules, etc., of the competition.

$4740.7 = 9259.3$  Kc. to 14400 — 4740.7 = 9659.3 Kc. This meant that the second harmonic of this oscillator tuned from 18518.6 to 19318.6 Kc. Subtracting the high if. (4740.7 Kc.) from this range, one obtains 13777.9 to 14577.9 Kc—conveniently covering the same band that the fundamental of the oscillator was designed to receive.

The effect of closer spacing of the two signals from a given station at the centre (roughly) of the 20 metre band was due to the fact that the change in frequency of the second harmonic was at twice the rate of the fundamental, and the two tuning systems were actually crossing in the centre of the band.

The cure for this trouble was to replace the 4740.7 Kc. i.f. transformers with 3330.7 Kc. transformers—the present frequency. This put the second oscillator on the high side of the high i.f., and necessitated adding  $455 \times 2 = 910$  Kc. to the frequency of the first oscillator. The second harmonic of the latter then ceased to beat with Amateur Stations to produce the effect described. The normal selectivity of the front end of the set takes care of the possible troubles of a like nature which might be expected from commercials above the 20 metre band, as none of them are as strong as nearby Amateur Stations.

In all cases, careful design of the oscillators to reduce harmonic content in their outputs is also a help.

It is not the writer's intention to waste "A.R." space by dwelling at length on other phases of the receiver

At 2030 hours (E.A.S.T.) VK3WI will change frequency to near the low frequency end of the band, calling on c.w. F.M.C. (Frequency Measuring Contest) No. 1 (three times) de VK3WI (three times), to be repeated for approximately three minutes, then key down for two minutes, followed by F.M.C. No. 1 (three times) de VK3WI (three times) QSY to F.M.C. No. 2.

The above procedure will then be repeated for the next frequency.

## SAMPLE ENTRY

Name—Joe Brown,  
Address—Marine Pde., Elwood, Vic.  
Date—April 4. Call—VK3XYZ  
Frequency Meter Details—Class C  
Wavemeter.

March 25— April 1—  
No. 1 — No. 6 —  
" 2 7049.42 Kc. " 7 7069.90 Kc.  
" 3 7092.64 Kc. " 8  
" 4 " " 9 7150.55 Kc.  
" 5 7170.02 Kc. " 10 —

I declare that this entry was made on Frequency Measuring Equipment normally used for frequency measurement in my own station.

(Signed) Joe Brown.

discussed; almost every other part of the set is conventional, and the same precautions as to rigidity, ventilation, shielding, etc., are taken there as for any other receiver.

Should any reader be interested in further information about this particular receiver, the writer will be happy to provide it on request.

## R.A.A.F. RESERVE

(Continued from Page 7)  
R.A.A.F. messes, thus giving you the opportunity to get together with other Reservists and Permanent Members for discussions on technical and service matters generally.

### How Can I Join?

Now that you have read this, and the conditions of service (set out in "A.R." July 1948, page 14), sit down and ask yourself:—

"Am I prepared to spend some of my own time to advance my knowledge of radio and its applications in the Royal Australian Air Force?"

The answer will most certainly be "Yes." Then write and ask for an enrolment form P/P. 49 to:—

Secretary, Air Board, Victoria Barracks, Melbourne, S.C.1; or

Your nearest recruiting office; or

The Chief Signals Officer of your Area.

If you have some personal queries you would like to have answered before you make an official application, write a personal letter to S/Ldr. Fred Bibby, c/o. D. Tels. & Radar, R.A.A.F. Headquarters, Victoria Barracks, Melbourne, S.C.1.

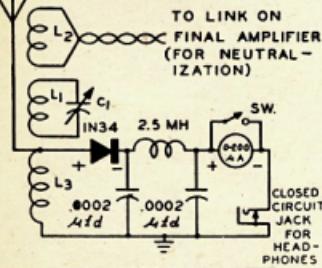
## SUGGESTIONS FOR USE OF GERMANIUM CRYSTALS

By courtesy of J. H. Magrath & Co.,  
of 208 Little Lonsdale Street, Melbourne,  
we publish herewith two circuits featuring Germanium Crystals.

In both circuit diagrams showing the Germanium Crystal, the bar of the crystal symbol represents the cathode. On each Sylvania Germanium Crystal the cathode side is indicated by a green band and the label "Cath."

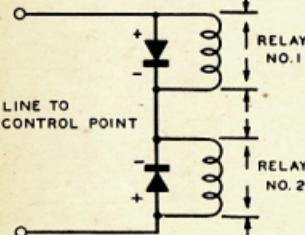
The B.T.H. British-made equivalent of the 1N34 is equally effective in the following circuits:—

#### **DETACHABLE ANTENNA**



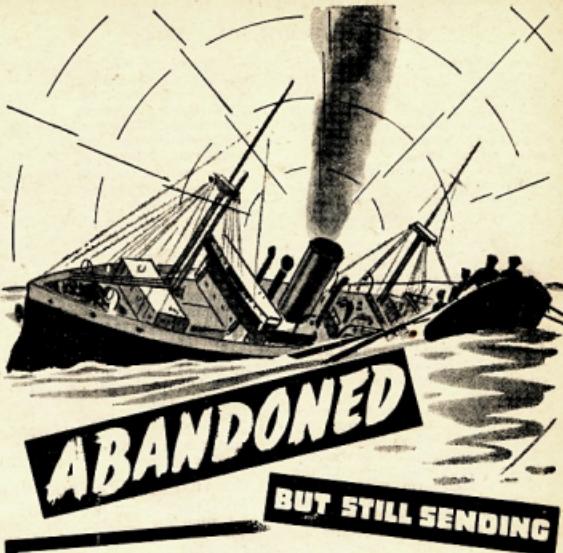
## **TUNED FIELD STRENGTH METER**

While this instrument has been designed specifically as a wide-range field strength meter, it may be employed also as an absorption wavemeter, listening monitor, and neutralisation indicator. L1 and C1 must resonate to the operating frequency of the transmitter under test. L2 consists of a few turns loosely coupled to L1. L3 should be about the same size as L1 and coupled tightly to L1. All coils are wound with the same size wire on the same coil former.



## DUAL RELAY CONTROL

Employing crystal diodes, this control system makes it possible to operate either one or two distant relays over a single-pair line. The crystal diodes shunting the relay coils are connected to the line with one polarity, the diode whose anode is positively impressed passes highest current and picks up the relay across which it is connected. When the battery is reversed, the second relay picks up and the first drops out. A higher battery voltage must be employed to pick up the relay shunted by the back-connected diode.



No mechanical or electrical device can avert an occasional sea tragedy, but modern electrical instruments have been the means of saving countless lives that, without them, would have been lost. With an automatic transmitter, an abandoned ship can continue to ask for aid; sending out name and position until the final plunge.

final plunge.

On ships that do not keep a continual wireless watch, an auto alarm will receive and record distress signals over long distances by International Code at close and regular frequencies. The proved efficiency of these life-saving electrical instruments is due to the designers and manufacturers—and I.R.C. Resistors play no small part in their make-up. YOU can rely on I.R.C. for ALL your Resistor requirements.

# **IRC RESISTORS**

AGENTS FOR AUSTRALIA

**Wm. J. McLellan & Co.**  
BRADBURY HOUSE, 55 YORK ST., SYDNEY BY 2500

# Series Screen Modulation of Type 3 MK. II

BY B. M. FERGUSON,\* VK3FN

Here is a new method of modulating the Type 3 Mark II which is in a class of its own for general use with this equipment and is ideal for portable operation. The modulator can be made to fit into the 3½" square coil compartment of the spares box.

Fig. 1 shows the audio line-up and method of connection to the transmitter. The circuit cannot be simplified any further and results obtained with it are really astonishing.

It is no exception to other systems of efficiency modulation in that it is critical as to grid drive and plate loading. Fortunately however, these adjustments are ridiculously easy—provided you follow the tuning instructions carefully.

## Modification to the Transmitter.—

A s.p.d.t. toggle switch is mounted about 1½" to the left of the power inlet cabinet and two insulated pin-jacks in the intervening space.

J1 is wired to one side of the switch and J2 to the 240 volt lug supplying the screen and oscillator. The screen resistor is removed from the valve pin and connected to the other side of the switch. The switch arm goes to the valve screen pin. NOTE—Do not use shielded wire to carry the audio.

**Modification to the Power Supply.—** Two pin-jacks are fitted through the ventilation holes just below the a.c. power inlet. One is earthed and the other is wired to the 6 volt pin on the power outlet socket.

**Modulator.—**The modulator is constructed on a very shallow chassis. Valve pins are bent down flat and the chassis is made just deep enough to clear the wiring from the sides of the spares box. It is bolted to the lid and the microphone jack and gain control fitted to the lid. The shaft of the latter is insulated from the lid. Three grommets provide outlet for (1) heater connection to supply, (2) lead to J1, (3) connector to J2, and an earth lead for connection to transmitter box, under corner screw. The latter was found to be desirable.

The modulator slides snugly into the 3½" square coil stowage compartment of the spares box, leaving the balance of the box available for other gear—small speaker, three-band monitor-cum-modulation checker, and the switching associated with the latter equipment.

The components are quite ordinary, the transformer for instance is from an old neutrodyne of 1927 vintage! To the critical ear the audio lacks "balance" and, strange as it may seem, it is the absence of some of the "highs" which is responsible. This condition is partly due to the by-passing effect of the screen condenser (0.002 uF.). A further contributory factor may be the "heater to cathode" capacity of the 6J5GT. The effect is not bad and you are assured that definitely none but the critical ear

will detect the weakness. It is a minor problem which critical individual users of the system must solve for themselves. Only those requiring to work DX through bad QRM would need to bother. The modulator is run "flat out" in order to fully modulate the carrier.

The features may be listed as under:

1. Modulator power is drawn from the transmitter 240 volt screen and oscillator supply; whilst this imposes an additional 6 Ma. on this particular circuit, the supply as a whole delivers much less current on phone than for c.w. The rectifiers are not endangered.
2. The fully modulated input—with linear output waveform—is twice that previously reported using other systems of modulation.

3. Phone is automatically available for a.c. or battery operation, thus making it ideal for portable operation.

4. No major modifications to the transmitter are necessary. Additions are very simple and easily made. Circuit constants are untouched and metering remains as is!

## ADJUSTMENT PROCEDURE

1.—Meter in position 6, switch to c.w. and tune up in the usual manner to say one division over half scale (16 divisions).

2.—With meter still in same position, switch to phone and input should now drop to about 11 divisions.

3.—Now switch meter to position 3 and check grid drive to ensure that it is ample. It should be about 20 divisions. **Two thirds full scale.**

4.—Return meter switch to position 6,

increase loading by one or two divisions until it is 12 or 13 divisions.

5.—Meter switch is now put back to position 3 and recheck grid drive and bring up if necessary.

N.B.—The procedure outlined is not an academically correct method for the adjustment of efficiency modulation. However, if the foregoing instructions are faithfully observed, the result will be a fully modulated and perfectly linear output wave form. Also, for the sake of simplicity, all meter readings are given in small divisions of the scale (30 full scale).

No isolating transformer for 6J5GT heater is necessary.

From 3.5 Mc. crystals it is necessary to operate the 6L6 as a doubler on 14 Mc. in order to obtain sufficient grid current. The output will not suffer under these conditions—it is actually much greater because of the increased plate efficiency.

All gear has been built into one case, 15" x 18" x 5½".

## AERIAL TUNING UNIT

The aerial tuning unit is simple, but effective, and provides facility for either parallel or series tuning of aerials. The normal aerial tuning may be used as desired. All coils have been cleaned and rewound with silver wire (except 3.5 Mc. coil L1A). They have all been provided with two turn links and arranged in the following order: L1A 3.5 Mc., L2A 7 Mc., L3A 14 Mc., L4A 28 Mc.

Operation is not intended on 28 Mc. but the unit can be used as an exciter. The links are connected to the centre pins and the corresponding connections on the socket feed through co-axial to two terminals just over the meter.

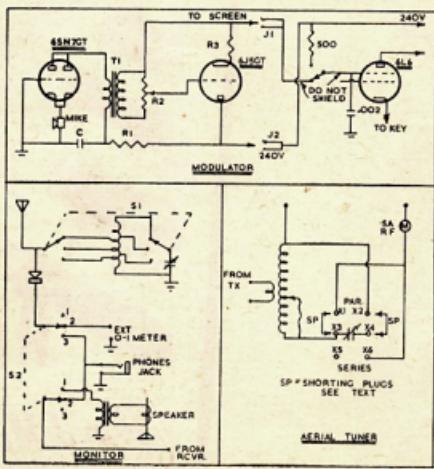


Fig. 1.—Schematic diagram of the modulator, monitor and speaker (bottom left), and aerial tuning unit (bottom right). The series-parallel antenna switch could be a d.p.d.t. knife switch, or as used here for greater compactness, two shorted parallel type line plugs, made up of banana plugs; the sockets being spaced 3" apart and are mounted on a mica base 2½" x 1½".  
J1, J2—Insulated pin-jacks.  
M—P.M.G. insert type carbon microphone.  
T1—5 1/2" audio transformer.  
C—0.1 uF. 400V. paper condenser.  
R1—5,000 ohms 1 w. carbon.  
R2—0.5 Meg. carbon pot.

R3—1,000 ohm 1 watt.  
S1—2 pole 3 pos. wafer.  
S2—2 pole 3 pos. wafer.  
Pos. 1 Receiver to speaker  
" 2 Receiver to phones,  
and mon. to meter.  
" 3 Monitor to phones.

\* No. 2 Second Court, McGowan Ave., West Preston, N.18, Victoria.

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- WEST AUST.: CARLYLE & CO. LTD., Hay St., Perth and 397 Hannan St., Kalgoorlie.
- S.A.: GERARD & GOODMAN LTD., 192-196 Rundle Street, Adelaide.
- TAS.: W. & G. GENDERS PTY. LTD., 53 Cameron St., Launceston.

Australian Factory Representative : R. H. CUNNINGHAM & CO. 420 William-st., MELB.

# This F.M. And Television Business

At the present time f.m. and television are receiving considerable publicity in the Press, and therefore some comments from WOSGK, Kansas, U.S.A., in a letter to VK3FO, gives us a pointer on what we can expect in the future, when these services get under way.

He deals only with the broadcast listener's reaction to f.m., but nevertheless his comments are most interesting to the Amateur, as they affect us vitally. To quote—

"F.M. is by no means the big thing that you people seem to think it is. F.M. is somewhat better in town, where interference is higher, but the trouble is that f.m. receivers are expensive to maintain, to buy, and the big majority of people would much rather spend a small sum for the cheap b.c.l. sets, a.c./d.c. circuits, almost no sensitivity, less if possible selectivity, high distortion, and tune in the local broadcast station, go about their business, paying very little attention to the programme being transmitted. They don't notice or care for the better quality, by no means enough to pay the much higher price. F.M. range is short, 30 miles or so, which cuts into the market considerably. The people living away from the

town are more interested in radio, therefore the lions' share is for a.m. sets, small and cheap."

WOSGK has some interesting comments on television interference and gives some idea of what is to come. To quote—

"The front end of a television receiver is as wide open as a farmer's barnyard gate, the r.f. amplifier must respond to a channel some five megacycles wide with equal response, in the 45-90 Mc. region. Naturally the response outside the 5 Mc. band is plenty, at 2 times down, it will pick up over some 25 Mc. The i.f., also 5 Mc. broad, is located between 20 and 28 Mc., and has plenty of skirt response. The video channel is 5 Mc. wide, from zero to 5 Mc., and naturally to cut the selling price, shielding is almost non-existent, filtering likewise, also decoupling. The usual procedure is to sell sets as far out as possible, the fringe of the signal area takes in the largest number of customers naturally, and with the receiver having such a potential for trouble, trouble is the usual occurrence.

"An Amateur living some three doors down from such a set owner, running perhaps 200 watts on 80 metres, blots

out his picture, so he shifts to 40, instead of the 3.5 Mc. interference to the video amplifier, his third harmonic at 21 Mc., again blots the picture; he moves up to 14 Mc. or 28 Mc. and harmonics enter the front end; he goes to 6 metres, and adjacent channel interference shows up—  
you can't win.

"He shuts down entirely, and the set owner gets a fine herringbone pattern, and he finds that the interference is coming from every station on the air with fundamental frequency in video range, harmonics in the i.f. range, or from a band on either side of the r.f. channel, with a signal up to maybe 25% of the desired signal voltage. The best hope for progress at the moment seems to be to move the whole thing up into the 400-700 Mc. region—to get as far away from the lower spectrum as possible, which means throwing out the whole thing and starting from scratch."

WOSGK's views are perhaps on the black side, but it might be a blessing in disguise that we are behind in these latest developments, because, if we are wise, we can profit by their mistakes, and when television comes, as it most certainly will, we can start on frequencies which will eliminate, or at least reduce, the troubles which apparently beset it now.



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# FEDERAL, QSL and



# DIVISIONAL NOTES

Federal President.—W. R. Gronow, VK3WG; Federal Secretary.—W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

## NEW SOUTH WALES

Secretary.—Dick Dowd (VK2RP), Box 1734, G.P.O., Sydney.

Meeting Night.—Fourth Friday of each month at Science House, corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor: H. F. Trehearne, VK2BM, 5 Walmsley St., Burwood.

Zone Correspondents.—North Coast and Tablelands:

P. A. H. Alexander, VK2PA, 103 St. Port Macquarie; Newcastle E. J. Bell, VK2PF, 13 Lakes St., Hamilton; VK2LX, 27 Comfort Ave., Crows Nest; H. Hawkins, VK2YL, 27 Comfort Ave., Crows Nest; South Coast and Tablelands: R. H. Rayner, VK2DO, 42 Pettif St., Yass; Southern: E. Arnold, VK2OJ, 673 Franklin Hwy., Albany; Western Suburbs: C. Pearce, VK2AHB, 48 Harrington Ave., Five Dock; Eastern Suburbs: H. Kerr, VK2AX, No. 4 Flat, 144 Hewlett St., Bronte; North Sydney: L. Trehearne, VK2AM, 779 Military Rd., Mosman; St. George: J. A. Ackerman, VK2AGL, 32 Park Rd., Carlton, South Sydney; V. H. Wilson, VK2WV, Cr. Wilson St. and Marine Pde., Wollongong.

## VICTORIA

Secretary.—C. G. Quin, VK3WO.

Administrative Secretary.—Mrs. O. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.I.

Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College, Zone Correspondents—North Western: B. R. Mann, VK3WM; Upcountry: C. C. Waring, VK3YW, 12 Skene St., Stawell; South Western: B. Seckine, VK3BL, 17a Raglan Street North, Ballarat; North Eastern: J. A. Miller, VK3ABG, "Erinvale," Avenel; Far North-Western Zone: Harry Dobbyn, VK3MF, 42 Walnut Ave., Mildura; Eastern Zone: D. J. Chilver, VK3DI, 23 Smith St., Geelong.

## FEDERAL

### DX C.C. NOTES

In this month's notes we list the first three phone awards for DX C.C.—congratulations to each, with a special mention to "Moerle" Morris, VK3BEZ, who has qualified for the three awards.

Applications are also to hand from VK3AHM, VK3EOP, VK3EK, VK2HZ, and VK4RF and are being checked.

We wish to draw attention to the Rules governing the award of these certificates which were printed in "Amateur Radio" for August, 1947, and amended under "Federal Notes" in "A.R." for April, 1948. All applicants must comply with these Rules and it will be necessary for the Bureau to disallow applications for countries as listed in January, 1949, "A.R."

### PHONE

#### Zones Countries

VK3JD (26) . . . . . 113

VK3RU (57) . . . . . 37 102

VK3BS (28) . . . . . 39 101

### C.W.

#### Zones Countries

VK3CN (3) . . . . . 40 136

VK3BK (14) . . . . . 89 127

VK3SW (12) . . . . . 39 122

VK3EE (10) . . . . . 38 117

VK3EO (7) . . . . . 31 116

VK3EF (1) . . . . . 39 116

VK4DA (20) . . . . . 38 113

VK3QL (13) . . . . . 40 112

VK3EH (23) . . . . . 38 106

### OPEN

#### Zones Countries

VK3BZ (5) . . . . . 39 154

VK3ED (1) . . . . . 40 115

VK3SK (1) . . . . . 39 136

VK3HG (4) . . . . . 39 136

VK3JE (18) . . . . . 39 139

VK3MC (6) . . . . . 39 132

VK3ER (11) . . . . . 37 124

VK3HE (1) . . . . . 39 125

VK3KW (19) . . . . . 37 117

VK4EL (16) . . . . . 39 116

### New Awards—

VK3NS (25) . . . . . 39 101  
Stickers for DX C.C. certificates will be issued to those who contact every 20 additional countries.

These will be issued in due course.

## WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI.—Sundays, 1130 hours EST 7196 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0930 hours EST simultaneously on 3750 Kc., 7190 Kc., 14,342 Kc., 52.4 Mc. and 144,138 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7010 Kc. channel is used from 1000 to 1050 hours each Sunday as VK4 WI query service to 4WI.

VK5WI.—Sundays, 1000 hours SAT on 7196 Kc. Frequency checks are given by VK5WI on Friday evenings on the 7 and 14 Mc. bands.

VK6WI.—Sat. 2 p.m. Sun. 9.30 a.m. W.A.S.T between 7000 Kc. and 7200 Kc. No frequency check available.

VK7WI.—Second and Fourth Sundays at 0630 hours EST on 7174 Kc. No frequency checks are available.

## COUNTRIES LIST

Please amend the January list as follows:

For Barbados—**DK** . . . . . DK

For Swaziland substitute prefix . . . . . ZST

Add the following new countries:

Norfolk Island (32) . . . . . VK3

Vatican City State (15) . . . . . HV

## FREQUENCY ALLOCATIONS

Listed below are the frequencies at present available for Australian Amateurs, and also types of emission that may be used:

3.5 to	3.8 Mc.—A1, A3,
7.0 to	7.2 Mc.—A1, A3,
14.0 to	14.4 Mc.—A1, A3,
20.9 to	27.28 Mc.—A1, A3, AF, FM,
28.0 to	30.0 Mc.—A1, A3, AF, FM,
50.0 to	54.0 Mc.—A1, A3, AF, FM,
144 to	148 Mc.—A0, A1, A2, A3, AF, Pulse,
288 to	295 Mc.—A0, A1, A2, A3, AF, Pulse,
576 to	585 Mc.—A0, A1, A2, A3, AF, Pulse,
1152 to	1160 Mc.—A0, A1, A2, A3, AF, Pulse,
2300 to	2340 Mc.—A0, A1, A2, A3, AF, Pulse,
5656 to	5850 Mc.—A0, A1, A2, A3, FM, Pulse,
10000 to	10500 Mc.—A0, A1, A2, A3, FM, Pulse,
21600 to	23000 Mc.—A0, A1, A2, A3, FM, Pulse,
30000 Mc. and higher	A0, A1, A2, A3, FM, Pulse.

## MORSE PRACTICE TRANSMISSIONS

By the time these notes appear, it is anticipated that the Morse practice transmissions will commence from most Divisional WI stations. Listen to the Sunday broadcasts for details of the frequencies and times of these transmissions. The tentative frequency will be 3504 Kc.

## AMATEUR CALL SIGNS

Due to the growing publication of a new P.M.P.'s Call Book, the list of changes etc. to Australian Amateur Call Signs has been discontinued. The new book will have blank interleaves, so that amendments may be made more readily than in the past. It is further proposed to issue monthly lists from the Department of these changes.

## COMMERCIAL INTERFERENCE

Since we first published our intentions in this matter of commercial stations' interference in our hands, we have had very meagre response to our plea for details of these stations. Unless we can have consistent reports coming in, we will be

## QUEENSLAND

Secretary.—G. G. Augusteens, Box 638, G.P.O., Brisbane.

Meeting Night.—Last Friday in each month at the State Service Building, Elizabeth St., City.

Divisional Sub-Editor: F. H. Shannon, VK4SN, Minden, via Rosewood.

## SOUTH AUSTRALIA

Secretary.—E. A. Barber, VK5MD, Box 1234K, G.P.O., Adelaide.

Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.

Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach.

## WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK5AG, 7 Howard St., Perth.

Meeting Place.—Padbury House, Cnr. St. George's Ter. and King St., Perth.

Meeting Night.—Watch the monthly Bulletin.

Divisional Sub-Editor.—VK5WT, Mr. D. Couch, May Street, Watermans Bay, W. Australia.

## TASMANIA

Secretary.—J. Brown, VK7BZ, 12 Thirza St., New Town, Telephone: W. 1328.

Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.

Divisional Sub-Editor.—T. Connor, VK7CT, 385 Elizabeth St., Hobart.

Northern Correspondent.—C. P. Wright, VK7LZ, 3 Knight St., Launceston.

## NATIONAL FIELD DAY CONTEST

The 1949 N.F.D. Contest is over for another 12 months, and already some of the keen portable boys are planning for next year's contest. Of those known to have participated, all are unanimous in their feelings of the great fun, the enjoyable time and look forward to the next. Those however who have taken out gear are VK2PA, VK8s ADB, AN, GK, LN, FF, UM, VK4s HR, JA, and VK7SK. We hope there were others and that logs are forthcoming. While the entries were not very encouraging, this was offset by the entries in the portable class. It is understood that one boy can "had it" from the extra strain of the turning of the wee beam! Other parties had plenty of contacts with South American P.D.T.O! Some of the boys even gave the XYLs instructions enough to go cook the meat! (Now isn't that good sportsmanship to go out to the next N.F.D.?) A little bird told us that some publicity is expected from a well-known pictorial magazine.

## FEDERAL CONVENTION

Although it is too late at this time to give reports for Federal Convention items, it is not yet too late to brief your delegate with last minute items for General Business. Note that they have item of item before they come down to Melbourne for Easter.

## I.A.R.U. NEWS

The Radio Club of Argentina has requested the I.A.R.U. to accept on behalf of the Union and its member societies the trophy donated by one of its members, Norberto Jorge Delgado, L.M.G.C. The trophy, which is a bamboo original by the sculptor Luols Narbondo, is on a base of granite and is in the form of a woman who emerges from a telephone key, holding in her hands leaves of oak and laurel. The trophy is slightly more than a metre in height. The trophy will be placed in the custody of K2UN, the United Nations station for display. As at December 31, 1959, the trophy is to be awarded to the I.A.R.U. member-society which has been a member of the Union for more than ten years.



The 50 Mc. transmitter is already in operation and ZL6 and VK9As have been worked with it using 15 watts input. Bill 2UV is now active on 20 with 16 watts to a pair of 507s and is putting out a very good signal. He also works DX with a DX with a similar transmitter. Jim 2ABZ is still busy re-building, time we heard something from you Jim. Fred 2ABC says he will stick to the v.h.f. bands with an occasional trip to 10 for a bit of DX. Fred is also threatening to just come to Mac. since Leo 2ACX is sick, but just now he manages to get in occasionally. Bert 2ABH has just had a quick trip to England, but I have not seen him since his return so cannot report on his visit.

#### EASTERN SUBURBS ZONE

Not much activity in this zone this month although a few of the 20 metre gang are still active. 2HP heard inquiring about the merits of the Clapp osc. Harold seems to be taking an interest in the game again. 2AZH active on 20 metre phone, also asking questions about the Clapp. 2YF has been having trouble with his 200 ohm antenna and nearly made some bad friends with it. 2QD mostly on 10 and 20 c.w. Ray is not taking any risks with his neighbours. 2AO also keeps c.w. man, and always becomes a buzz on the key, can receive any old spooker with either set. 2QY has been having trouble with his 200 ohm antenna, all cleared up now and going great guns. 2CE has built car radio and very pleased with result; hope you can soon get the car OM.

2FJ has made a new start and aims at 100 watts on six. (The boys in the area wish to convey to you fact that their deepest sympathy in your recent sad bereavement.) 2WR heard 2AO working some bus but busy shifting gear to new QTH. 2DV never heard these days, guess the re-build is not finished. 2CF working on hand-switching receiver and transmitter. 2EE heard working his share of DX on 10. 2AHZ active again after quiet spell. Still waiting to hear 2TX, 2OT, 2KU, 2TA, 2V4, 2V5, these boys seem to have given the game away. 2AJG still active on 20 and 40 phone and c.w. Don't forget fellows to shoot along any interesting dope on your or any other chaps doing, your scribe finds it very hard to get sufficient dope.

#### DX NOTES BY VK2ACK

Conditions generally are still far from good, but a few rare DX stations have put in an appearance on 14 Mc.

The most important DX news during the past four to six weeks, has been the opening of 3.5 Mc. for both European and North American contacts. VK9A, RA, QL and EO have been getting a good share of contacts.

On 7 Mc. I'm told that there are plenty of the Pacific Islands represented. One in particular being KCE8A, ex-WSEWA/Truk.

On 14 Mc. Bill VK2EZE has his total to 157 countries, Bill VK2EZE (Cebelab). Bill has been mostly on 3.5 Mc. and 14 Mc. and on the former band has got across to W.

Morris VK2VNT is still off the air owing to the housing problem, but he tells me it won't be long

Mac VK2ZHZ, after having built all band equipment, can be heard most mornings knocking 'em over. From the 6th January to the 6th February he has worked 73 countries, which shows that the bug has bitten him in the right place. F.b. Mac and keep the good work VK2ZHZ is now 39 zones and 150 countries.

Gordon VK2DI adds FMSAD, SHUN, YK1AB and FFSGP for 186 countries. He has about 160 of them confirmed which is very good when one considers how to get a card return these days.

Frank VK3QL adds FFSGP bringing him to 149 countries. All Frank's work has been on c.w. and from a QSO which has about five sets of h.t. over him (35,000) 6000 and (that sort of stuff), including the Western District electric train services alongside!! F.b. Frank.

Here at 2ACX it's now 175 with EASAI and FFSGP. The latter one is located at GAO in the French Congo. OXM3MG promises me an air mail QSL to everyone on my W.L.C. contacts!!!

From VK4AJ-S VK3QL and I have learned that VK1FE (ex-VK4FE) and VK1YU (ex-VK3YU) both on Heard Island are on 14 Mc. c.w. looking for VK contacts.

With follows, this is my last DX note for some months. Frank VK3QL will keep the notes going so please shoot them along to him at No. 18 Bridge Road, Homebush, N.S.W., or ring him at U.M. 6861 any evening or week-ends with any DX dope you may have. I do hope my notes have been of interest to some of you. Cheorio and good hunting, 73 de VK2ACK.

#### NEWCASTLE ZONE

2ANG active on 10 and 20 with new modulator. 2AGD chasing the few extra for a DX C.C. 2AF was back at home QTH, requires seven for DX C.C. 2AHA been on holidays, got some good fish and went fishing for 2ABX while he was working really well. 2AMM, who has been in touch with the new crystal mike, 2CI heard often with nice quality phone. 2BZ been holidaying, congrats on a 50 Mc. W.A.S.

2PA in the new shack, nice DX with QRP, ask him about his baby. 2NX has a 100 ohm antenna on 20 and 40. 2ANX using Clapp 2CS stage on c.w. 2ZG heard occasionally, was visited by the ZO, a nice time had. 2FP has 101 up on 10 metre phone and will rebuild when the lay off wears off.

#### COALFIELDS AND LAKES

3KZ mostly on 50 Mc., worked VK2, 3, 5, 7 with 807 duplexer, 1000 watt bloodline and some elements. 2AK also working 50, waiting for some gear from Sydney and guess it is then the big rebuild. 2YO nil heard. 2ZJ on 10 and talking of the new shack mainly on 10 and 50 Mc., the beam on the latter band goes no higher. 2AJB, a sticker for 40, may be talked into 14 Mc. 2ARU who recently spent a week with him. 2TY working 19 and interested in 144. 2MK heard on 40, 2PZ building a new receiver. 2ADT mainly on 50, repeated contact with VK6, plans a new beam on 50 Mc.

2YL spent two months on 50 with indifferent results, a new feed line to antenna improved things. 2BZ, 2ADT and 2YL visited Sydney first week-end in February. Visited ten shacks; their thanks to 2HU and 2YL, 2AM and 2XY, 2PZ, 2HO, 2HL, 2WJ, 2ABC, 2ABG, 2ANL and 2NO all helped to make the trip a big success. 2HO has worked all States on 50, building mobile gear. 2AEZ building receiver for 50 Mc. how is 20 DX Err? 2AMU re-building 14 Mc. gear. 2KR getting started on 50 Mc.

#### WESTERN ZONE

2ACU has all his new gear working but QRL with hot weather. 2XZ has a Clapp in front of his AT2C, appears to work f.b. 2WH also working the above, keeping the AT2D for the DX bands. 2HO, 2JC and 2XO have returned from a fishing holiday, 2HO with gear with good results. 2ZW appears to be the best on Hams, in Orange, has the QRO rig working, also the usual downswings. 2NS has completed his high power rig hand-switched, 813 in final. 2IE has abandoned DX on 20 m. and taken up singing. 2BT still chasing DX on 20 m. and 40 m.

2AMR has push button transmitters on 10, 20, 40 and 80 with a separate outfit on 6 plus a mobile 6 outfit. 2LY very slowly getting some gear together for 20. 2V4 is the 50 Mc. section of the V.H.F. Club, nice work Stan. 2LZ did well in all sections of the Contest, working 144 and 288; made an appearance on 50, 2EY was away for a DX C.C., working Ws on 80. 2EF sent away for a DX C.C., working Ws on 80. 2EF got his first class ticket and will now have more time on the air. 2FH lost his beam and tower, but won't erect again, as expects a QTH change to Sydney.

#### SOUTH COAST AND TABLELANDS

2UK supplies news of a fire fighting communication system set up in Wollongong and district organised by the local club, 2AMW. 2AMW has a transmitter p.p. 2000瓦 built by old-timer (f.b.) and son. A lot of good equipment and work went into the gear and the official opening is close by. 2WP is off the air again, an influx of visitors over the holidays kept him quiet. 2V1 has 144 Mc. gear going and is looking out for Sydney stations, been bitten with the phone bug after years of c.w. 2WP re-building, active on 20. 2VH working 20 m. and c.w.

2ANW, a new shack should be up in April soon with QRP. 2ON at Dapto chasing 20 BX on c.w. no phone at the moment. 2AGZ left and now living in Sydney. 2AOX keeps Woomoolloomoo on the map with 40 phone. 2UK has taken up recording and has learned that the replacing of film transmissions is out. The Wollongong Club has a few lads doing the A.O.C.P. and there were some loud grunts when the news of f.m. phase and pulse going in the next examination.

2PZ has built a big rebuild coming up, new panels on transmitter and receiver and new coil switching device. 2ALS and 2BZ heard from Coonamble signals sounded just the same as they do from here in Yass. 2AIR on again after the holiday, the XYL has been in hospital still taking things easily; doing a lot of work. 2ALX not heard, but has been receiving 2AIX's receiver. 2PN and 2EG called in here recently on trips through NSW. Met up with 2EZ in Sydney, enough said. It would be nice to meet up with all the Sydney gang, so 73 until the country convention.

#### VICTORIA

The lecture by Mr. Weste, of the Forestry Commission, which was to have been held on 15th February, has been postponed to the 1st March due to the L.R.E. meeting for that month. The title of the lecture is to be "Improving the Preparation Characteristics of the Windom or Single Wire Line." Remember the L.R.E. has invited any W.L.A. members to attend this fine lecture on 25th March, instead of 1st February, as previously.

The Annual General Meeting of this District will be called for the date co-inciding with the general meeting for 6th April, 1949. Keep this date in mind for attention to election of new officers for Council. Look around now and fill in your form when it comes in for office-bearers for the ensuing 12 months. Due notice of this meeting will be sent to all financial members.

Mr. Ken McCaggert VK3JNW gave a very interesting lecture on his tour overseas. Many general interest items were brought forward by Ken, main

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ses of which are as follows. Temperature inversion and sporadic E made conditions on the higher frequencies favourable for contacts between England and the Continent. Ken simply presented his Australian A.O.C.P. Licence to the authorities and was allowed to go through. G. Barnes, E.S.A.B. meetings were held at the local Tavern in Cambridge and the log fires and refreshments made these meetings very informal.

It was surprising to see such a wide range of equipment at the Manufacturers' Exhibition. A visit to the Continent only meant keeping a weather eye out for contacts as Ken found that plane "QST" came in handy for making contacts in America—simply looking up the appropriate notes and consulting the American Call Book in conjunction with the phone book. American Hams, thus consulted, proved very sociable and Ken had a good time. Radio shack and intercom equipment 60 to 90 foot self-supporting masts are quite common in California and one at least has a telephone at the top to assist in tuning adjustments, etc. A Convention was visited at Boston at which some 3,000 Hams were present, say 3000. Gen donated by manufacturers was given to the Intercom Fund and the draw is made of the lottery. Factory built apparatus has produced a dearth of home constructors.

Ken also visited A.R.R.L. Headquarters and was very interested in the activity and amount of apparatus evidence. All forms of equipment described in "QST" can be seen on hand for the first three days in a special place and can be inspected by visitors. The wide range of power supplies and test equipment takes up quite a lot of room. The station is really constructed from Headquarters and it is very impressive to see all rigs in one place being keyed together in their news broadcasts. Disposals appear on the eastern side of America was very reasonably priced and mostly in good condition.

Transmission is now getting good use, even a co-axial line from East to West side is used for relay work. A.M. is still English and F.M. in America where car ignition noise does not interfere with transmission as in England. F.M. is used quiet a lot in the States as a means of reducing interference on the lower frequency bands. All gear described in "QST" has tested on the air for at least a month and it takes some four months from compilation of article until it actually appears in print.

#### STANDARD FREQUENCY TRANSMISSION

This transmission took place on 26th January and the number of the seven transmissions was measured by the P.M.G. The actual frequencies were:-  
7000 Kc transmission was 7000 Kc plus 8 cycles.  
7010 " " 7010 " " 50 "  
7020 " " 7020 " " 50 "  
7030 " " 7030 " " 50 "  
7040 " " 7040 " " 80 "  
7050 " " 7050 " " 100 "  
7060 " " 7060 " " 60 "

#### SECOND ANNUAL STATE CONVENTION

The business side of the Convention was opened by the President of the Victorian Division, who, in welcoming representatives from each State in Victoria, expressed the desire that this present Convention would herald great things for the Institute in the near future. After confirmation of the minutes of the last Convention, items of general business were discussed and discussion of the Agenda continued until the lunch break, when there was a break of welcome refreshments. The afternoon session saw our numbers increased considerably, and proceedings went so well that a photographer had to be engaged to take pictures. This was sufficient owing to shortage of time, all the items of general business could not be dealt with, however the Agenda items produced some interesting points and the Federal Convention, to be held in Melbourne at Easter, this year, will reap the benefit.

Guest speakers were:- D.H.M., S.W.E., 30A, 30Z, 38S, 3XU, 3HP, 3RE, 3UT, 3GZ, 3WQ, 3AG, 3XJ, 3VX, 3ER, 3WZ, 3GS, 3HF, 3YS, 3GW, 3AKR, 3CIC, 3ACE, 3LV, 3IK, 3JA, 3RN, 3AC5, 3TJ, 3PW, 3ABS, 3XR, 3DF, 3AKZ, 3OK, 3OO, 3OH, 3ST, 3SA, 3TF, 3XO, 3AC, 3KX, 3JO, 3DZ, 3AKA, 3EK, 3TF, 3XO, 3AC, 3H, 3P, 3HFM, 3MLA, 3WQ, and Jack Groves, with Mrs. Cross the only lady. 2ALW and 3FL were present from interstate.

Afternoons were provided for the visit of the Country and City Councils, and a large number of the metropolitan shacks, after which a Barbecue at Harry Kinnear's (3KN) was voted a huge success and very much appreciated by all. Ninety-five people were counted after which time the gate-keeper lost count for several reasons, one being the beam.

Sunday at Yarra Bend National Park started off with the boys competing for DX with portable rigs, and meeting quite a few more who were unable to

attend on Saturday. Len Moncrieff (3LX) provided the aeroplane to keep the kiddies interested and several types of aerials to keep the boys interested, while he went ahead and won the competition. After lunch you could hardly see the ground for the huge crowd, and the local kiosk reported the biggest business day for years, if not ever. The draw was provided by Bert Stevens, 3BH, he is to be congratulated on its flexibility and excellent carrying power. Eric Wardle 3OO drew things out of hats and all odd corners to keep grown-ups and kiddies amused for a time, and a competition for the best piece of clothing and apparatus provided a prize for Bill Wells 3AWW. The Maryborough Laundry was represented by Bill Holland 3XC and others whose attire drew the attention of the "Age" photographer, whilst our worthy President Bob Cunningham 3ML provided the answers for the wife recorder from 3AW.

The website was very good and many have been specially arranged for us by the Committee organising the Convention, as they seemed to have everything else looked after. This committee comprised 3ML ground, Jack Groves organising, 3AKB catering section, 3OK, transport, 3LN, novelty events, and radio sales, 3H, 3AK, barbecue and aircraft, and 3WQ business of Convention and publicity. They are to be congratulated for their effort and if this is a sample of their work, the next State Convention should be world famous.

Mrs. Cross, our Administrative Secretary, also deserves special mention as, due to her efforts and the efforts of the ladies committee who had several meetings in the country districts, with special Saturday afternoon together, being entertained by the city members' wives.

Look forward to the date of our next State Convention and make it a must as soon as you can hear the date.

#### EMERGENCY COMMUNICATIONS—NORTH EASTERN DIVISION

At 1630 hours on 27th January, VK3SH called "QO Emergency," when he attended a fire raging in the Chiltern area, and was immediately in contact with VK3EK. A station was required in Wangaratta to contact him and this was to be sent to the Postmaster Commission, VRS3Y, who enquired whether the Postmaster at Benalla was advised that a circuit existed for clearing urgent fire traffic be passed on the information that a serious fire was also located at Glenrowan, this was passed on to 3HP.

At 1715 hours 3HS advised 3KR that he was changing location to a spot 2½ miles away from the Yackandandah fire, to which a post office had been established at 1820 hours, the operating spot was located at the Golden Bar Mine where conditions were very poor, due to thick smoke which limited

visibility to approximately 200 yards. At this time 3VV contacted 3HP direct and Harry (3HP) requested that 3VV pass on message to the Postmaster Commission at Beechworth asking if they could point the head of the fire from their lookout tower. This information was supplied to 3HP and at 1859 hours the fire was reported as headed off and that the operational position was to be changed to Latrobe.

From 1930 hours on, communication between 3KB and 3HP was severely interfered with by American c.w. and phone stations operating on 3HP's frequency. However 3KR managed to copy 3HP in communication with 3VV at 2100 hours, when Harry reported the fire was under control and that he was closing down.

#### VICTORIAN DIVISION LADIES' COMMITTEE

A musical afternoon has been arranged by the Ladies' Committee to be held at the Rooms, 191 Queen Street, on Friday, 18th March, at 2 p.m. It is hoped to be come along and bring a friend, please call on Cross at FJ 6997 by 16th March.

You are also invited to call on Cross on Wednesday, 20th March, at 2 p.m. to make plans for the entertainment of visitors during the Federal Convention at Easter.

#### SOUTH WESTERN ZONE

An interesting thing happened when Phil 3APQ/3WC operated his Type 3 Mark II portable from the train bound for Melbourne; he was in contact with 3ALG and 3AKB, and when passing Laverton 3ASD was QSOed, good work Phil. Andy 3BE still modulates, going very good now. Henry 3AA and 3GR with XYL went to see 3RE, 3II and 3AGD, had a good trip but got no dope. Have not heard 3II on late, must be cooling off in duck pond Leigh. Vern 3YF has new antenna up now 300 ft long and Merv 3AB is coming on when tired of wire recorder. 3AGV Gooder gave us a ring on New Year's eve, was told he has a fine voice. 3HW has scrapped his receiver for a new SX25 as he cannot hear enough DX. Heard other day that Bob 3GK has unfolded his 14 Mc folded dipole with reflector and the beam can be aimed using the boys on 7 Mc. just the distance. Had a yarn to 3AKE other night on 40, but Ed has trouble with power leaks; has a vertical 7 Mc. aerial up with better results.

Jack 3JA still finds time to work some DX on 20 and 10, when not working on farm. Norm 3EQ has not been on much of late so I have been told and the same goes for Ted 3AB and Frank 3AF. Bruce has added more contacts with new antenna 3QG. Bruce is busy with mobile rig when not fixing up radios. Hear that Geelong gang has new Ham, 3AAAT

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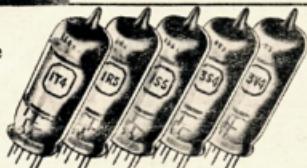
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From Alex SABK is working DX on 26 phone. Bill LARU had holiday at Lorne with a Type A Mark III, with phone, and SWB is on 8W, what is b.c.l. like Archie. Bruce S3VF is back on 4W phone, but have not heard Bill 3WT on for some time, what's the matter Bill?

Don't forget chapter the monthly zone hook-up on 7 Mc. the first Sunday of each month at 10 a.m., hope we get a good muster next zone hook-up (SBE chief caller).

**Geelong Amateur Radio Club.** — At the first meeting of the above club for 1949 members used the call sign VK3KAT. Mr. Alf Forster S4JF brought along to this meeting a v.h.f. transmitter in which some of the members were interested. At the next meeting Mr. Dick Heighway SABK gave a lecture on "Radios and Their Accessories" and had his Type 3 Model 100 Class C Wireless Oscilloscope to illustrate his lecture. Mr. Alex Bell KINELA SAKW, the President of the Club, welcomed Bill Kinella SSW, John McConnell SSW, and Jack Clay SAWU who were visitors to the club. At a later meeting Mr. Alf Forster gave a talk on Transistorized units by the use of a slide projector and the black-board to illustrate his talk which took up quite a bit of the evening. Extending members to the club should get in touch with the Secretary, Mr. Bob Wooley, SIC, at 158 Kilgour St., South Geelong.

#### EASTERN ZONE

The new Ham at Mafra SALA is using e.w. on his AT5/ARS set-up to work ZL and other Mafras. Hams, one of which is to move to Melbourne for a P.M.C. course. SABK will take a Type A Mark III to work the bands when he can, stringing his luck. Jack SAKH is temporarily inactive as he is building a new modulator unit incorporating a pair of 567s. SBS took a Type 3 Mark II with him when holidaying at the Gippsland Lakes, but had no time to report, except bad QRM; was there QRM from fishermen?

The Zone Manager to hear SABO of Mornington is the hook-up on 6th February. He has a 7192 as a modulated oscillator on 144 Mc., but has not been heard yet. Keep it at Max, your turn will come. SABV expects to move from Traralgon shortly, will keep you in the loop. SABK has been working 14 Mc. on 6 W. sets. SACL is active on 6. SGB was out on the 144 Mc. Field Day, but did not have many QSOs, as his r.f. stage on the receiver was not working; however, he did work SAWK who was portable at Mt. Donna Buang, with the antenna coupled to the mixer.

#### CENTRAL WESTERN ZONE

SAY is a most unusual type of tube, he sent in a "screed of notes." Bill has been very busy in that little wheat town; besides keeping the inner fires going of the local harvesters, he took time off and built himself a new 12 tube double-conversion super with the necessary openings and shunting. SAWL built a 1000 watt m.e.t. and transmitter inside an AT10 case, a v.t.o. using a 9002 exc. 9003 buffer driving a 42 ps. Thinking of doing some QRP work, he rashly went on the air with the 9002 and 9003 and with an input of 0.132 watt was given RST 379 from VK5 (good receiver) and the other end (Bill), so work that out you QRO merchants!

For those who don't hear the W.L.A. broadcasts and missed it in the last month's magazine, the zone hook-up has been changed back to its original time of 10 a.m. on 7120 Kc. on the second Sunday in the month.

#### NORTH EASTERN ZONE

3HP, SKE, and SYY handled messages during the recent bushfire at Chiltean. Associate Ken SSW was still working the channel and was operating on Avenue Five Bridgeport mobile station. SABG, under call sign VL6GA, is base. Four fires attended to date. SARC/Portable has been operating from Mangalore Ammunition Dump, using a Type 3 Mark II. SYY is still in poor health. 3DQ is to Lancelin. Dick is the third Ham to leave this zone since this writer took over the notes. 3UJ has been embarrassed by the YL report, as ever his VK6 friends asked him when the wedding was to be. Alan denies the rumour, but his friends tell all. SABK is still working the channel. SABP, SAPP, still running in the M.G., so has not broken his neck yet. SAWC putting up antenna and improving the rig; Chas heard a pirate using his call. Jack Ansett, an old timer of the coherer days, is making a come back to the radio game. Don't be surprised if you hear him on the airways and made a beautiful job. SKE, after what he did with the Convention screens, will not be worth mentioning in these notes.

## QUEENSLAND

Our apologies to VK4 members for no notes from this Division in the February issue. January being the holiday period there was very little activity by Council and no general meeting was held in December.

January general meeting was held on the 20th at Ipswich. 4W, 4BN, and VK2ART. Nominations were received for office-bearers for the coming year. Voting will take place at the February general meeting and the results will be announced in the notes for April. Country members will receive postal votes.

The new QSL card for QSL Officer was received with regret by all present. The Country Representative, 4BN, spoke of the excellent work done by the retiring QSL Officer and expressed the thanks and appreciation of all country members to 4BN for the efficient manner in which Eric carried out his duties. 4BN advised that in the Queensland Division they had received its appreciation on 4BN honorary life membership. This was unanimously supported. Congratulations Eric!

Certificates were received for the following awards: Trans-Tasman Award—1st C.W. Section 4KZC and 4JP; 1st Open Section 4XJ, DX C.Q.—Telegraphy 4DA; Remembrance Day Contest (Qld.)—1st 4XJ, 2nd 4CB, 3rd 4XO.

For several months past this Division has been sending to England food parcels and from time to time has received letters of thanks from English Amateurs. During January a letter of thanks was received from the Bradford Club and members of that club were presenting a collection of general gifts and tokens to the VK4 Division. The record was played over 4W1 on the 23rd January but unfortunately conditions on the 7 Mc. band were so bad that very few heard very much of it.

Members and non-members who purchased Gibson Girls from Disposals are asked to remove the automatic disc from the tuning shaft to eliminate the possibility of SOS signals. Transmissions from these sets have been causing considerable QRM to coastal stations.

An old timer heard on the 7 Mc. band was 4IK, Bill reports being very active on 14 Mc. Another 14 Mc. man who has been working on 7 Mc. lately is 4PD. We believe Tom has something out of the ordinary in rotary beams. The angle from tower is a solid job.

We cannot leave this section of the notes without congratulating the operator of 4WI who has at last added a daughter to his family.

#### ZONE NEWS

Townsville Zone (4GD)—4EJ was again active on 14 Mc. and was heard working an old timer 4OG who has bobbed up on that band after many years absence.

Maryborough Zone (4KW)—4KR building beam for 14 Mc. 4KA built from holidays and re-building. 4AM operating c.w. but getting modulator built for use on 14 Mc. phone. 4BQ uses two antennae, each two half waves in phase; Bill has worked very successfully on 14 Mc. using various beam types. 4LA, YV5, HK1, VP5, CT, and HLJ, 4FH uses a ground grid pre-selector and a Q5er and now has 82 countries.

Gympie Zone (4GR)—4RA using Command Set working c.w. 4KR working 14 Mc. DX and said he is using QRP, only 50 watts now. 4CE—another one again says "nothing is gained by getting involved in DX." Bill, in any rate, 4CE—"organizer's luck," was how Col described his finding recently of a gold nugget worth approximately £150. And how was your luck when you started chasing DX. Col? 4HD very active on 6. Max reports that band was working very well. 4EJ was heard on 14 Mc. of December also. Max uses Detto bottles as insulators on a series of ve beams, reckons he'll have "hum" free carriers from now on. Congratulations Max on gaining W.A.S. on 60 Mc! Visitors to 4HD during the Xmas holidays were 4GH, 4SN, 4UK, and 4LJ. 4IM didn't see much of the mountain rigs as reports have it he was too busy eating beans.

South West Zone (4ER)—4LD using a new antenna, probably a 400 special. 4KR very active on 6 metres and with 4CU has opened up a channel between Millmerran and Clifton. 4TY having trouble with 50 Mc. transmitter. 4UX has a new receiver. Claude now using a certain well known communication kit in a number of "home brews." Does it come up to the UX's requirement of the AR? Claude's 4XK active on 6 metres. 4DA heard in the Sunday morning 4W1 round-table.

That is all for this month, 73 and don't forget to send your Zone Manager news of your activity.

## SOUTH AUSTRALIA

The February general meeting was held to a capacity gathering, and all present were given a very interesting and instructive lecture on "Beam Antennae" by Mr. D. Robinson (5RN). Dave not only gave the lowdown on various types of beams, but demonstrated his beams by means of portable beams and suitable indicating apparatus. A vote of thanks, proposed by that champion puller-down and putter-up of aerials, Jim Sullivan (5JK), was received with acclamation.

Among the visitors were Messrs. B. Perkins, P. Rambelow, R. Cassidy, W. Dempsey, R. Burton, and S. Vassallo (5VN), W.A.C. Certificates were presented to 5OD and 5LB, congratulations to George and Lionel.

The resignation of Dr. Ross Aley (5AJ) from the Council was accepted with regret, although we all realise that Ross is very QRL, and his projected trip overseas finally decided him. It's been a pleasure

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are working with you Ross, although you don't seem to have much respect for my physique.

It was announced at the meeting that more than the required number of nominations had been received for the Council and therefore a ballot would be necessary. The V.H.F. news and augurs well for the future of the V.H.F. Division. It is not right that the same handful of members should bear all the weight of office simply because of the apathy of the rest. Here's hoping for a real fighting vote, and may the best men win. Nobody will be allowed to bring any eggs or tomatoes inside the hall at one or two of the candidates will offer a bigger target for the critics, and what's more I have only one pair of pants!

The question of larger meeting rooms also came up again and the President explained that it was extremely difficult to secure any sort of rooms for so reasonable a rental as we were securing the present one. Some "good fairy" then rose to his feet and said that he could put a suitable room at the disposal of the division and the committee invited to meet the Secretary, Treasurer and President after the meeting, so here's hoping.

It is remarkable how the boys roll up to the meetings these days, and whenever any of the old-timers happen to stroll in, the first thing they allude to is the difference between the time when we attended meetings in the days when a dozen and a half was a full house. Don't forget however that this state of affairs has not come about by accident, but by good and careful management, and a good deal of tolerance, because there's no doubt about it, we are one of the strongest clubs in the State.

The question of the ionospheric prediction charts being further published in "A.R." came up for general discussion at the meeting and some were for, and some against. It was finally decided to suggest that they be deleted, the deciding factor being that they were of little value to us here until too late to be of any use to VK5. It seemed to me that many of those who were in a position to use the predictions were loath to rise to their

feet and support them. This is a pity when one considers that the privilege of free speech took so much fighting for.

The proposed rules for the V.H.F. W.A.S. Certificate did not meet with too good a reception at the meeting also. Papua and Norfolk Island, etc., did not seem quite in order, and as for diverging the VK5 from VK6, VK5, well that takes some understanding, especially as the P.M.G.'s Department do not see fit to allot a separate prefix. Of course we could be wrong.

SKR (Vic.) to you will take unto himself a partner on 9th February and the time will come when these remarks will have decided if it is to be "skeds or dishes." Be firm Vic, the first six cracks with the rolling pin are hardest. Anyways, best wishes for the future from all the gang to you and your charming YF (that should get you a piece of dividend) to sit on, and also don't forget Gordon (5XU) will be sending you a series of QSLs on his organ in the Church, so you won't be lonely. I tried to arrange an arch of crossed 807s at the Church but couldn't get any starters.

We hate to boast, but VK5 has the two outstanding six metre records, Clarrie Castles (5KL) and Bob Manuel (5RT). Only modesty prohibits us from saying that if there are any more coming up we will probably have them. Not bad for a "hick."

As punctual as a clock that sits on the shack table of 5BZ, along comes the latest budget of dodges for the South East Area. VK5 is very busy on 40-41-42-43-44 and everybody was interested to see how fast a windmill had grown in John's backyard (must have watered it well). With a 10 metre beam on top and before these notes are read a 6 and a 2 metre up there also, he will surely get results. 5M5 had his modulation tranny go up in smoke, so he got a new one (Gordon, or is it Stewart?). By the way how is the SJK? 5CH is fairly active on 26 and 40 and is still slowly rebuilding, but as he has been acting manager at

the local watt factory, there is very little time for any re-building. Do you give away any samples from the factory Claude? 5TW has been having a quiet but happy time on 10 metre c.w. "I dips me lid to you Tom."

5FD, one of the newcomers, has been working on 28 and 40, but has handicapped to the extent that he is not able to make a living. He is out at his parents' house in the country. A Little bird has whispered to me that ere these notes are read John will be installed in a larger house with his gear alongside him and a.c. installed (I repeat, how do they do it!). 5KE ("Eng" to you), the other newcomer, is a bit of a c.w. nut and is using a 10m dipole at No. 4 as a receiver. 5OK should bring his head in shame, not one contact for the month, but as he looks around and sees a new shack, a nice tidy garden, rows of vegetables which will bring in more money for gear, well probably that old contact won't be missed. Has the new YF become resigned to sharing you with Amateur Radio Col?

If you fellows smell a fairly high odor down there, it will probably be Wick Bayly's pipe (5MW) as he hitch-hikes his way to Melbourne through Mt. Gambier. If any of you can manage to bury the said pipe you will be doing the boys here a good turn as it is not to be envied to be隅ered.

Last general meeting arrangements with the Editor of "Splinter" and he was more than willing, but somebody has fallen down on the job. You whistle and I will point.

A good many of the guys in VK5 have been thinking a lot of me in the time because I was a

member of the January 1949 Jury in the Criminal Court at Adelaide. They called me the "hanging Judge," "a good man and true," "Your Honor,"

and it was even suggested that I had "been called to the bar." Anyway, on my first day at the courts

when all the lawyers were in, a very

criminal looking type walked into the court,

and I was amazed to see that such a desper-

ate looking person was not under guard. Taking a

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## FIFTY AND UP

seat, he casually glanced in my direction and gave me a leering smile of contempt. I nearly collapsed from shock and before I could find my voice "Do you know him?" I blurted out "no" and trying to hide my red face I said "who is it?" "An official of the gool!" he said. Well! They nearly had to get the "Doctor" to come. I felt so upset. It just shows how an environment will change the appearance even in the uprights of Amateurs, doesn't it? I must be going crackers.

The new members of the Advisory Committee for 1949 are Ross Kelly (GLW), Ross Harris (SPL), George Ramsay (GJD), and a "dark horse" Warwick Parsons (GPB). A thumbnail biography of each member follows: Ross Kelly—has been here since 1948. Ross Harris, representative in VK5 for a prominent Interstate wire and cable company—is prepared at shortest notice to talk upon e.w. operating standards; hobbies are Amateur Radio and Amateur Radio. Ross Kelly—big brother and ergo—big brother of the VK5 gang. His hobby is prepared to talk upon anything at shortest notice: has broken all the rules and regulations at some time or other, and is thus fitted exceptionally well for the committee; hobbies are Amateur Radio and Amateur Radio. George Ramsay—is a member of the well known Ramsay family, who have been here since 1948. Ross Harris—representative in VK5 for a prominent Interstate wire and cable company—is prepared at shortest notice to talk about anything connected with radio; has always been a good boy and should be able to keep the rough element on the committee in order; hobbies are Amateur Radio and Amateur Radio. Warwick Parsons—is a down and going engineer, the role of which he plays to perfection in broadcasting in VK5 (you think);—is prepared at the shortest notice to just talk—is never on the air so cannot break any rules or regulations; is one of those strong, well-built, rippling muscle types (yes, I know you call it fat, but it is my muscle); hobbies are snooping, spying, and slandering with a dash of Amateur Radio and Amateur Radio.

Noticed in a recent R.S.G.B. booklet a photo of a slap-up shack, and recognised it as that of my recent sparing partner Cec Basby (5HZ). I hunted high and low to see if I could find the electric clock but was too well hidden for me.

The simple yet effective frequency multiplier designed by Alan Babbington (STB) is achieving great popularity in VK5, and quite a large number of successful jobs are reported. I am luckier than most, because Ralph is personally making up my capacitance and inductance, and checking it against a known standard. A fine chap Ralph, one of the best (I'll get on).

In my enthusiasm to become a radio Dorothy I was so taken with the idea that I would receive your interest, but I did and I am now forwarded it to the Editor (whether he prints it or not remains to be seen). It was signed Lucy Connection, and in reply I would like to say that I am very sorry for you Lucy, but you are what is known as a radio widow, and believe me that you are not unique. I can assure you that apparently you have not got what it takes to win him back from that siren "Amateur Radio"; have you tried chopping down his antenna?

Another XYL who signs herself "Fed Up" wants to know how she can stop her husband from eating peanuts in bed. What can I say? I am not a bit of cracking (pardon me) but all I can say is that as eating peanuts will give anyone HALitosis (bad breath to you), even his best pals will eventually tell him.

Dex (5MD) was in his element out in the back room doing "monos" at the general meeting. He was sharing all the sheep of their wool to pay for their disposals gear and seemed to revel in the job.

On "ten" the other day 5AJ was heard to tell GJR that he should get SPS to help him lay some bricks, as this would improve the figure of SPS. I would be quite willing to help Jack, but it is too much of a strain for me to lay bricks!

### PERSONALITIES

EKU has only been on six air a few weeks and has a big list of countries to its credit already. Ray is running 20 watts phone and c.w. on 7, 14 and 28 Mc., and putting out a really f.b. signal. GAQ has found himself with an a.c. supply at last. There's 50 volts ripple on the town's d.c. supply so we shall be hearing Leo and dad now—Leo is winning a special transmitter FPI was given to him recently. Frank likes the a.c. so may be be deserving Mullenava to live in our cold climate. 6WH recently suffered a sad bereavement. Please accept our deepest sympathies Ted. We are glad to hear you back on the W.I.L.A. news broadcasts once again. EKZ has been putting on the show eight days a week 7 Mc. Have you heard any Europeans yet Harry? 6MO has gone back on the air again after power supply troubles up there at Watheroo. He came on in time to catch the worst of the smotop activities. How's DX now Alan? GHM seems to be representing the band on 50 Mc. He has had over 100 QSOs that have been made. On 14 Mc. 6AZ paid us a hurried visit from Forrest. Harry was anxious to get home again where there is no QRN. GKE whilst on holidays at Rottnest was heard on 7 and 14 Mc. with his portable rig. We heard the ZL contacts with him so he must have made it to the Finish. Day Contest GHN heard working a HBR on 14 Mc. phone. F.b. Low your v.f.o. is proving its worth.

6MK is putting out a nice 14 Mc. phone signal. Tom is getting his share of the DX too. 6CN has mastered his v.f.o. There were quite a few alterations and additions made to his rig. Tom and Cyril, GMW is giving Frank (ex-VK5AFL) lessons on how to run a rig. Very pleased to see you back Frank and we are looking forward to the regular t.b. contacts. 6DX has just about recovered from the 1948 Christmas Party and is keeping things moving in the Goldfields district. GMY—where is that Mal is up to now? He has just been on the air once in six weeks. It's about time we heard him again.

### TASMANIA

I seem to have missed out on the notes recently due to pressure of business and at the moment am badly out of touch with all the Ham doings in the first April issue.

The first meeting of the 1949 series was held a couple of weeks ago, having been postponed from the previous week due to inclement weather. The honours of the day went to our worthy Secretary TBJ. The transmitter was located at Blackman's Bay under the care of TAW who had picked a good position and a friend removed all the surrounding parties by the way Lou, what happened to you?

I haven't listened very much lately but have heard one or two locals "batting the breeze" on the 7 Mc. band.

The Y.M.C.A. Division has been asked to maintain the trophy of the Royal Hobart Branch Committee, between the start of lunch and the judge's box for the rowing events. A similar set-up was used last year and proved very effective.

The next big event in VK7 is the Annual General Meeting and Dinner which is to take place early in April. Hoping to see many more t.b. stations than there was last year, one just got nicely started and then it was announced that the barrel had passed out. It was after 10 o'clock too, worst luck.

It is hoped to arrange a field day for the Sunday following the Dinner. I hope there will be some visitors from the Northern end of the Island, we anticipate a good day's eating.

T.D.'s gear looks very nice these days, what with lots of lovely meters and 813s and what have you. Do all those meters mean something? Lou? Saw ex-TRT 5ABR a few days ago. Keith was a very active Ham in the pre-war days and is now living in Canberra and has given radio away temporarily.

The A.G.C.P. class has started again for the year with a bunch of aspirants for the good old VK7. What a bunch of you lot! Time to renew your tickets. We are looking for some new blood on our Divisional Council at the General Meeting. The Council has been the same for the last two years and several members, including yours truly, feel that a change would do a lot of good and are not seeking re-election. I guess ere this goes to print the new Council will have been elected.

One of our councillors, and incidentally our Treasurer, has left the State for New Guinea on transfer with the P.M.G. Department. All we wish him well in the job up there. It is a painless thing, that about 1000 miles away, but I left the country and both gone to New Guinea. Can't say I blame them after our recent experience of summer down this way.

Conditions on the 50 Mc. band were remarkably good through January and early February, especially as regards sporadic E work, although conditions were not so good for contacting country stations via tropospheric bending.

Openings to VK2, VK4, and occasionally VK5 occurred almost daily and on the 25th of January the band was open from 0800 hours until 0205 the next morning to ZL, all districts being worked by VK3Es. The signals were for the main part S8 to S9 with a few stronger, and considerable QRM showed up in the first 300 Kc. of the band.

On the 27th VK4BT was heard working VK5FC at 0200 hours in the evening between 2120 and 2200. VK5E0, 6GD, 6GS, and 6HJ were worked by Melbourne stations. The next day VK5C was heard from 1100 to 1230 by VK3RHE and VK3IM but no contact was made; that evening at 2100 VK3RHE worked VK5PG. Next VK5 opening was on the 4th of February when VK5PG worked VK5WQ and VK5BQ had a partial contact with him.

The band was open from 0845 until 1225 on the 6th of February for VK2 and VK4 so conditions seem to be holding longer for this type of work than they did last year.

### VICTORIA

Several new channels have been opened to the country stations on the evenings of the 5th and 6th February VK5RKR at Mt. Macedon has contacts with VK3OD in Horsham, a distance of 185 miles, with signals up to S9. VK3OD was heard in Melbourne on both nights and on the evening of the 7th he worked VK3EH and VK5PG, 168 and 178 miles respectively.

VK3TH at Yinnar and VK5L at Trafalgar South have been working Melbourne stations and run skeds with VK5WQ on Saturday evenings and Thursday VK5ACB at Red Hill is putting out tremendous signals over the 4.5 mile path to Melbourne. Eric is in a good location and has a four element w.a. beam 50 feet high.

**144 Mc.**—The writer must apologise for not being able to cover the doings on this band very handily this month as he is not very well established yet, but this should be remedied in a couple of weeks. He has been unable to work properly (the present one has a loss of two S points in directivity).

There appears to have been a fair amount of activity around the suburbs, although on this band also there is plenty of room for newcomers. Most of the transmitters in use are crystal controlled, although some are using simpler gear quite successfully. Bob Hill, VK5BQ, as described in March 1948 "QST" are popular and several chaps have them giving good results.

VK3EL in Ballarat is active on the band, using a 522 driving a 35T, a converter, and a three-element beam. He has worked 3ABA and 3EH in Melbourne, 3QR on Churchill Island, near San Remo, and is also very active and works quite a number of Melbourne stations. The signals from both of these stations are quite strong, probably some nights worse than others. SVL at Red Hill is working on the band using a parallel rod oscillator and super regen receiver, he has worked 3ABA and possibly other Melbourne stations.

**144 Mc. Field Day** was held on Sunday, the 6th of February. The weather was warm and perfect for this type of activity. Stations out were 3ABA at Mt. Macedon, 3ANW at Mt. Donna Buang, 3VW at Mt. Buller, 3AM at the Geelong area, 3CI at Mt. Faigone. Many contacts were placed during the afternoon but it is understood that no records or new ground were broken. 3ANW worked through to the Geelong area, about 35 miles, and 3ABA held 3CT, approximately 120 miles.

**576 Mc.**—It was decided at the February meeting of the V.H.F. Group that there should be some activity on this band. VK3RKH already has a pair of tubes for using RL18 working, and others have promised sets for receiving and transmitting gear built with a view to holding a small space.

The main difficulty is in obtaining tubes suitable for the band. RL18s work very well, so anyone having these tubes is practically in business. Receivers may also cause some trouble, once again the RL18 is the preferred type in either a self or separately quenched super-regen, the latter type must be used to get good results. Antennas of course offer a great deal of scope as arrays giving high gain can be constructed in a very small space.

### WESTERN AUSTRALIA

The January meeting was held on the 18th at Paddington Buildings. It was a very hot and humid evening, and not really inviting to many new members and visitors. The usual business was dealt with and VK5NDI donated the VK6 Division two transmitting valves to be allotted as competitive trophies.

The meeting formally closed at 9 p.m., but 2NI gave us a very interesting demonstration of the radio gear in his car, in which he had crossed Australia from Sydney.

Much rag-chewing and QRN continued in the street. One local P.C. came along to see what was doing. One of the lads nearly talked him into joining the W.I.L.A. Still hot and muggy, the gang gradually dispersed to their respective transports before the midnight rush.

## QUEENSLAND

As reported elsewhere activity on this band during the past two months has been very great. We are pleased to announce that this State can now boast of W.A.S. on 59 Mc. Merton and others who have achieved the honour are 4HD, 4ES, 4BT, 4RY, 4HR.

4CU reports their on Thursday, 3rd February, at 8.30 p.m. a carrier was heard on 50.3 Mc. This and after two items an announcement was made. The speech, however, could not be copied. The station had a carrier of S7 and transmission was very good quality. Charlie's beam was pointed due west of Clifton at the time. Can anyone help in identifying this station?

During the period 20th November to 31st January 4CU reports working the following stations:- 2HD, 2GU, 3OF, 3IM, 3LW, 3ABE, 3CM, 3ARM, 3AS, 3BZ, 3CQ, 3DQ, 3HD, 3LZ, 3AKN, 3BZB, 3TS, 3ZB, 3WD, 3ZD, 3YV, 3EC, 4HR, 4KK, 4BT, 4BT, 4AW, 5PQ, 5CH, 5RF, 5RV, 5WG, 5KG, 5PM, 5GI, 5AR, 5AH, 7AJ, 7XL, 7XK, all one hundred and eight QSOs with forty-two different stations.

During January 4HD has worked the following 2YV, 3EM, 3CR, 3VD, 3OD, 3DQ, 3HD, 3LZ, 3AKN, 3BZ, 3CQ, 3DQ, 3HD, 3LZ, 3AKN, 3BZB, 3TS, 3ZB, 3WD, 3ZD, 3YV, 3EC, 4HR, 4KK, 4BT, 4BT, 4AW, 5PQ, 5CH, 5RF, 5RV, 5WG, 5KG, 5PM, 5GI, 5AR, 5AH, 7AJ, 7XL, and heard ZL1MM and ZL208.

We are sorry that we cannot give more details concerning activities of other VK4s active on this band as no further details have been supplied to the writer of these notes.

## WESTERN AUSTRALIA

The 50 Mc band was very active again during January and these observations were made from Perth. At the end of the first week in the month it was noticed that the radio ranges on various Eastern States airfields again became audible at increasing strength as the days passed. Up to the 16th January, Perth was experiencing electric static interference being heard by most consumers every alternate hour. It is possible that, because of this, openings of the band may have been missed during the periods when power was run off, although 5LW had power when 6PC did not, and vice versa. However, on the evening of the 16th, 1800 hours, 5LW worked 4RR, 2RU, and 2LW were worked by 6PC the band closing at about 1845 (6PC now using three element wide spaced rotary beam). These signals suffered from severe QRM. Varying from S8 to zero, severely.

On the 26th 6LW worked 5QR, 6LW reported that although several VK5s were heard in Perth, conditions were so bad that only 5QR was worked. He said that 5HD had worked 6EC and heard 6DW, both country Amateurs.

On the 27th at 1600 hours Perth time 6FC worked 4BT, followed by 4HD, then 4ES and then 2ADT. During the middle of QSO with 2ADT, the band closed down, the time then had advanced to 1115. During the course of the next few hours more and more stations were heard, but still failed to work, while peaking S8 at times, averaging S4 to S6. Undoubtedly, F2 propagation, I believe this was the first VK4/VK6 contact on 50 Mc.

Nothing more until the 28th at 0930 when 6FC worked 6QB and, but only Q4 5A, 5B, very bad. Ten minutes later the band had gone out. (6LW reported him on the night of the 27th, VK5s were heard in Perth, and one worked by 6GS portable Perth. 6DW at Bruce Rock is reported to have heard VK5 working ZL some time ago, on c.w. 1000 KHz, 6PQ, 599, not readable on phone—QRT. This QSO was a real battle, finally making it on c.w. both ways (RST 549), after battling for over an hour).

At 1115 6PC worked 4RY also c.w. RST 449. This also was a battle at first but improved later, concluding at 1220 when the band seemed to clear down. This seems to have been the closure of the band, nothing more has been heard in Perth since. I have no definite source from country Amateurs of their experiences during this period. 6HM of Kalgoorlie later told me on 40 metres that on 6 he had made 151 contacts with 41 different stations to date (29/1/49). No news from W.A. of Albany or from Mt Bruce Radio, but I warrant they did equally as well as we did in Perth. Perth seems a difficult place for 6 metre DX somehow.

## CORRESPONDENCE

### APPRECIATION

P.O. Box 127, Geraldton, W.A.  
Editor "A.R.", Sir,

Allow me to pass on my thanks and appreciation to VK5PS for his bright and entertaining VK3 notes.

The Hams of whom he writes are, naturally, strangers to me, but the way he writes makes his contribution the second thing I look for each month, the first obviously being the VK6 Divisional Notes.

VK5 is fortunate in having as its Divisional Sub-Editor a man with a natural flair for Ham journalism which puts him, in my estimation, way up among some of the world's best as found in the pages of British and American journals.

This letter implies no disregard of the sterling efforts of Dow (4WT) in reporting W.A. activities but is simply intended as a compliment to someone who seems to have been born with a gift.

—R. H. ATKINSON, VK6WZ.

Princes Highway, Harrisfield, Vic.  
Editor, "A.R.", Sir,

Could I be given a little space to give my heartfelt thanks to all those Hams and friends who turned up to my shack on 29th January to erect my tower and beam.

As you know, I am now partly invalidised with heart trouble, and the real Ham Spirit once more rose to the occasion and did what was impossible for me to do. All did a great job and I thank each and every one.

—CHAS. R. WHITELAW, VK3BH.

WARNING  
Largs Bay, Sth. Aust.  
Editor "A.R.", Sir,

I had brought to me today a portion of a letter written by a general engineer with whom I had seen the address seeking the call sign "4Guru" and letters "G" and the writer of the owner of a "Ham set" in the vicinity who might be able to arrange for some members of the family to gather at his station and hold conversation "through my boss station—you can talk for hours."

As the party approaching me was in ignorance regarding the provisions of Para. 83 of the Handbook, I pointed out at length what would be the result if any general started doing this.

Possibly a general reminder to all licensed Amateurs to remember the first five lines of Para. 83 would not go amiss and not, in an endeavour to do a kindness, penalise themselves (and others) by permitting their equipment to be used as a public telephone channel—even if "you can talk for hours" (presumably free gratis and for nothing).

I did not enlighten the enquirer that, being a very experienced I could not possibly oblige him—but I don't think any further approaches will be made in this regard to others to seek a free telephone channel.

—T. LAIDLAW, VK5TL.

REPLY TO "OLD HOMBRE"  
Dear "Old Hombre,"

I hesitate to cross pens with such a critical, and I am sure, cantankerous old gentleman. I say old, because I feel that reactions such as yours towards our hobby can only be acquired after a lifetime of knowledge and you yourself without a vestige of a sense of humour.

You are possibly a very old timer literally toothed on an A.R.R.L. Handbook, you may have bitten deep into the back pages but missed the first few, missed that small saga of Amateur Radio, missed the Amateur's Code, and missed the word tolerance between every line.

"The King's English" was written to be utilised, simplified in Amateur Radio for the whose education and comprehension as yours "Old Hombre." A few "sister" or mutations will do a lot less harm to our hobby, than a gripping, intolerant attitude such as yours.

Education is a curse to many, a credit to some, but any Amateur who has obtained his ticket lacking

in it, should be admired. We know the great "GP" Listen to our broadcasts but don't forget that the "GP" also suffer from the lack of erudition pro rata.

You can't be very active or you would notice the term "handle" is fast falling out of favour. Perhaps you are aware that little par in "QST" that started it on its way.

TEN FIVE NOF NOTES ON ABS 1 WL HPE TT UR IDEAS GIT CHENG SN OR U WL HVE US SPELLING BCNU—CUNJL. I really like it, a bit of a change from the mundane conversations of every day.

I hope "Old Hombre" in the interests of Amateur Radio and possibly yourself, that you take off the school tie, orientate yourself and see if you can't see the brighter side. This game of ours is not nearly as bad as you will have us believe. 73 CUL YRS,

—"CANAILLE."

[The Editor reserves the right in all cases to publish or withhold any unsigned correspondence.]

## FOR SALE, EXCHANGE, WANTED

9d. per line, minimum 2/-

Copy must be received by 15th of month. Remittance must accompany advertisement. Calculation of cost is based on an average of six words per line.

**FOR SALE**—Bendix Frequency Meter, complete with built in a.c. supply, compilation charts, and complete set of spare valves, in new condition and is accurate; what offers? Also one 1,100 volt aside 150 Ma. power transformer with filament windings, £4. VK4UX, Stanthorpe.

**FOR SALE**—Brand New VCR139A 2½" C.R.O. with socket, 39/6; 1" 913 C.R.O.; 108 brand new, less valves; No. 11 Transceiver, brand new with supply and valves. Apply G. Laver, Fish Creek, Victoria.

**FOR SALE**—Main printed scale Dials for AMER200, 5/- each. VK3RN, R. Higginbotham, 43 Eleanor Street, Ashburton, E.13.

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**FOR SALE**—Valves tested as new, 807, 6AC7, 6H6, 6J7, 6K7, 6C5, etc., 10/6 each. VK3AFM, Phone UY 6871.

**FOR SALE**—3 Mk. II, A Mk. III, new and complete with spares, one used; 109 Receiver; 902. VK3ALT, Wright, 78 Queensberry Street, West Footscray, Victoria.

**RECEIVER** and Transmitter Racks 19", built to order; AR7 types 50/7, standard drilling. L. Frith, MX 1004.

RED LINE

# TRANSFORMERS OF DISTINCTION

## HIGH FIDELITY OUTPUT TRANSFORMERS.

(DESIGNED SPECIFICALLY FOR NEGATIVE FEEDBACK APPLICATION)

The "AF" series of output transformers are super-high quality units designed for minimum phase shift, and are intended for use in the types of negative feedback circuits using gain reduction of the order of 2 to 3 dB and in which the transformer itself is included in the feedback loop. A very large sub-division and interleaving of primary and secondary coils confines leakage inductance to the phenomenally low values shown, while the open circuit inductances are designed to have a signal attenuation not greater than 3 dB at 3.3 cps. Open frequency attenuation is not more than 3 dB at 60 KC.

### ITEM 52.

#### TYPE No. AF8

Primary Z: 10000 ohms pp. .... Plus 34 db  
Secondary Z: ..... 8 ohms ..... 0.5 db  
Insertion Loss: ..... 0.5 db  
Primary L: 125 Hys. .... Leakage L: 22 mHY  
Freq. Resp.: +/- 0.2 dB 20 cps to 30 Kc/s. .... Wgt. 7 lbs.  
Base: 4 x 4½ x 4½" H ..... "S" is 1¾"  
Mntg: VII

### ITEM 53.

#### TYPE No. AF10

Primary Z: 10000 ohms pp. .... Plus 34 db  
Secondary Z: ..... 500 and 125 ohms  
Insertion Loss: ..... 0.4 db  
Primary L: 125 Hys. .... Leakage L: 17 mHY  
Freq. Resp.: +/- 0.2 dB 20 cps to 30 Kc/s. .... Wgt. 7 lbs.  
Base: 4 x 4½ x 4½" H ..... "S" is 1¾"  
Mntg: VII

### ITEM 54.

#### TYPE No. AF15

Primary Z: 10000 ohms pp. .... Plus 34 db  
Secondary Z: ..... 15 and 3½ ohms VC  
Insertion Loss: ..... 0.5 db  
Primary L: 125 hys. .... Leakage L: 19 mHY  
Freq. Resp.: +/- 0.2 dB 20 cps to 30 Kc/s. .... Wgt. 7 lbs.  
Base: 4 x 4½ x 4½" H ..... "S" is 1¾"  
Mntg: VII

The "AW" range of output transformers listed in this section comprises units designed specifically for high fidelity audio systems. Their features are multiple interleaved coils, low leakage reactance, and in the limit, the possible construction with the frequency range covered; adequate primary open circuit inductances to maintain low frequency amplification; and comparatively large core structure of high quality transformer steel to reduce iron distortion by the use of low flux densities at the MAXIMUM R.M.S. signal frequency voltages incurred.

OCL values are measured at 5V AC at 50 cycles per second, representing an extremely low signal level. The actual inductance at -3 dB from rated output would be many times that given.

### ITEM 55.

#### TYPE No. AW1

Primary Z: 5000 ohms pp. .... Plus 33 db  
Secondary Z: ..... 8 ohms or 2 ohms ..... 0.44 db  
Insertion Loss: ..... 0.44 db  
Primary L: 85 Hys. .... Leakage L: 35 mHY  
Freq. Resp.: +/- 1 dB 30 cps to 12 Kc/s. .... Wgt. 6 lbs.  
Base: 4 x 4 x 4½" H ..... "S" is 1½"  
Mntg: VII

### ITEM 56.

#### TYPE No. AW2

Primary Z: 5000 ohms pp. .... Plus 33 db  
Secondary Z: ..... 500 ohms and 125 ohms ..... 0.38 db  
Insertion Loss: ..... 0.38 db  
Primary L: 85 Hys. .... Leakage L: 70 mHY  
Freq. Resp.: +/- 1 dB 30 cps to 12 Kc/s. .... Wgt. 6 lbs.  
Base: 4 x 4 x 4½" H ..... "S" is 1½"  
Mntg: VII

### ITEM 57.

#### TYPE No. AW3

Primary Z: 3000 ohms pp. .... Plus 34 db  
Secondary Z: ..... 8 ohms or 2 ohms ..... 0.3 db  
Insertion Loss: ..... 0.3 db  
Primary L: 40 Hys. .... Leakage L: 55 mHY  
Freq. Resp.: +/- 1 dB 30 cps to 12 Kc/s. .... Wgt. 6 lbs.  
Base: 4 x 4 x 4½" H ..... "S" is 1½"  
Mntg: VII

### ITEM 58.

#### TYPE No. AW4

Primary Z: 3000 ohms pp. .... Plus 34 db  
Secondary Z: ..... 500 ohms and 125 ohms ..... 0.3 db  
Insertion Loss: ..... 0.3 db  
Primary L: 40 Hys. .... Leakage L: 50 mHY  
Freq. Resp.: +/- 1 dB 30 cps to 12 Kc/s. .... Wgt. 6 lbs.  
Base: 4 x 4 x 4½" H ..... "S" is 1½"  
Mntg: VII

### ITEM 59.

#### TYPE No. AW5

Primary Z: 12,500 ohms pp. .... Plus 39 db  
Secondary Z: ..... 500 ohms and 125 ohms ..... 0.3 db  
Insertion Loss: ..... 0.3 db  
Primary L: 100 Hys. .... Leakage L: 150 mHY  
Freq. Resp.: +/- 1 dB 30 cps to 15 Kc/s. .... Wgt. 9 lbs.  
Base: 4 x 4 x 4½" H ..... "S" is 2½"  
Mntg: VII

### ITEM 60.

#### TYPE No. AW6

Primary Z: 12,000 ohms pp. .... Plus 33 db  
Secondary Z: ..... 500 ohms and 125 ohms ..... 0.6 db  
Insertion Loss: ..... 0.6 db  
Primary L: 100 Hys. .... Leakage L: 140 mHY  
Freq. Resp.: +/- 1 dB 30 cps to 12 Kc/s. .... Wgt. 6 lbs.  
Base: 4 x 4 x 4½" H ..... "S" is 1½"  
Mntg: VII

### ITEM 61.

#### TYPE No. AW7

Primary Z: 12,000 ohms pp. .... Plus 33 db  
Secondary Z: ..... 8 ohms or 2 ohms ..... 0.6 db  
Insertion Loss: ..... 0.6 db  
Primary L: 100 Hys. .... Leakage L: 140 mHY  
Freq. Resp.: +/- 1 dB 30 cps to 10 Kc/s. .... Wgt. 6 lbs.  
Base: 4 x 4 x 4½" H ..... "S" is 1½"  
Mntg: VII

### ITEM 62.

#### TYPE No. AW8

Primary Z: 13,000 ohms pp. .... Plus 37 db  
Secondary Z: ..... 500 ohms and 125 ohms ..... 0.6 db  
Insertion Loss: ..... 0.6 db  
Primary L: 35 Hys. .... Leakage L: 28 mHY  
Freq. Resp.: +/- 1 dB 30 cps to 12 Kc/s. .... Wgt. 9 lbs.  
Base: 4 x 4 x 4½" H ..... "S" is 2½"  
Mntg: VII

### ITEM 63.

#### TYPE No. AW9

Primary Z: 6600 ohms pp. .... Plus 37 db  
Secondary Z: ..... 500 ohms and 125 ohms ..... 0.6 db  
Insertion Loss: ..... 0.6 db  
Primary L: 35 Hys. .... Leakage L: 28 mHY  
Freq. Resp.: +/- 1 dB 30 cps to 10 Kc/s. .... Wgt. 7 lbs.  
Base: 4 x 4 x 4½" H ..... "S" is 1¾"  
Mntg: VII

### ITEM 64.

#### TYPE No. AW10

Primary Z: 10,000 ohms pp. .... Plus 39 db  
Secondary Z: ..... 500 ohms and 125 ohms ..... 0.5 db  
Insertion Loss: ..... 0.5 db  
Primary L: 80 Hys. .... Leakage L: 100 mHY  
Freq. Resp.: +/- 1 dB 30 cps to 10 Kc/s. .... Wgt. 9 lbs.  
Base: 4 x 4 x 4½" H ..... "S" is 2½"  
Mntg: VII

### DISTRIBUTORS:

#### VICTORIA:

Homecrafts Pty. Ltd.  
Arthur Veall Pty. Ltd.  
Radio Parts Pty. Ltd.  
Howard Radio  
A. G. Healing Ltd.  
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Lawrence & Hanson  
Electrical (Vic.), Pty.  
Warburton Frankl  
(Melb.), Ltd.

NEW SOUTH WALES:  
United Radio Distributors  
Pty. Ltd.

#### QUEENSLAND:

A. E. Harold,  
B. R. Dendro Industries  
(Maryborough),  
J. Michaelmore & Co.,  
(Mackay).

SOUTH AUSTRALIA:  
Gerrard & Goodman,  
Radio Wholesalers Pty.  
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# RED LINE EQUIPMENT PTY. LTD.

## TRANSFORMER ENGINEERS

WORKSHOP: Cent. 4773. CITY OFFICE: MU 6895  
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# The Radio Enthusiasts Supply Store

## J.H. MAGRATH & C°

### Signal Strength Meter



Improve that home made receiver with a signal strength meter. In black crackle case the meter is calibrated in "S" unit and to 60DB over "S" 9. Plugs into octal socket on receiver. We supply circuit of modification entailed.

### Wire Wound Resistors

Giltford 3 watt 10d. ea. 5 watt 1/4 ea. plus tax.

### Germanium Crystals

English type Germanium Crystals C.G.I. Price 20/- plus tax.

### Soldering Irons



Quick heating electric soldering irons for Servicemen! Complete with metal cover, 75 watt, 16/6 ea. plus tax.

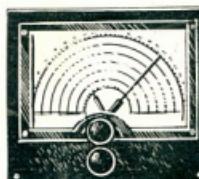
### University Meters

#### Ersin Multi-Core Solder

Multimeter MV A/2 more ranges than competitive meters. £11/5/- plus tax.

No more dry joints, available in 1 lb. reels. 8/2 lb. plus tax.

### Band Spread Dial



NEW from England. Band spread dial with two drive for direct calibration. 28/- ea. plus tax.

### Ample Stocks Available!

#### 300 Ohm RF Transmission Line



Available in 100 yard lengths,  
8d per yard.  
Cut Lengths,  
9d per yard.

Plus Tax

### Aegis Kit Set

Type K54B, 4 valve superhet set. Kit Set. Complete with cabinet & valves. £12/3/6 including tax.

### Oddments

Dial cord, nuts and bolts, drive spindles, grommets, solder lugs, everything for the amateur.

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For all sizes of university Meters, Multimeters, or Signal Strength. Meters 3/3 plus tax.



### Circle Cutters

Cuts holes from 1 inch to 3½ inches in Sheet metal etc. Best grade tool steel. 12/6 plus tax.

### METER REPAIR SERVICE

WE CAN REPAIR ALL TYPES OF METERS — PROMPT  
SERVICE REASONABLE PRICES — ALL WORK DONE  
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